#### IMPORTANT NOTICE

The U.S. Postal Service continues to irradiate letters, flats, Express and Priority Mail with stamps for postage and other packages with stamps for postage destined to government agencies in the ZIP Code ranges 202 through 205.

Mail that is irradiated may exhibit a discolored (tan-colored) quality, as well as be brittle, show spots on envelopes and make address labels unreadable. Irradiation may destroy electronic format materials provided on computer discs. Customers and businesses sending mail to ZIP Codes 202-205 can avoid the irradiation process by affixing postage meter strips or permit indicia instead of postage stamps to Express or Priority Mail. The use of corporate accounts for Express Mail or registered mail also is another way to avoid the irradiation process.

Due to potential delays in receiving mail and potential for receipt of damaged computer discs, offerors are encouraged to use alternatives to the mail when submitting proposals.

This solicitation contains the provision at FAR 52.215-5 which authorizes facsimile proposals. Offerors are encouraged to use alternatives to the mail when submitting proposals.

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## PART I - THE SCHEDULE SECTION B SUPPLIES OR SERVICES AND PRICES/COSTS

#### B-1 SUPPLIES/SERVICES AND COSTS

ITEM NUMBER	SUPPLIES OR SERVICES	MAXIMUM ESTIMATED COST	MAXIMUM FIXED FEE	MAXIMUM TOTAL EST. COST PLUS FIXED FEE
0001	The Contractor shall provide software and engineering support in accordance with Section C.	\$	\$	\$
0002	Data in accordance with Exhibit A (DD 1423) and Enclosure (1)	* NSP	* NSP	* NSP
TOTAL ESTIN	MATED COST PLUS FIXED F	ΈΕ	\$	\$

<sup>\*</sup> Not Separately Priced

#### **B-1 MINIMUM AND MAXIMUM QUANTITIES**

As contemplated by the clause of the solicitation entitled, "Indefinite Quantity", the minimum quantity that will be ordered by the Government during the effective period of the contract is research and development support requiring the contractor to provide a level of effort of 82,368 direct labor hours.

The maximum quantity that the Government may order during the effective period of the contract is research and development support requiring the contractor to provide a level of effort of <u>823,680</u> direct labor hours.

The minimum and maximum quantities may consist of any combination of the tasks contained in the statement of work.

### SECTION C DESCRIPTION/SPECIFICATIONS/STATEMENT OF WORK

#### C-2 STATEMENT OF WORK

The work and services to be performed hereunder shall be subject to the requirements and standards contained in Attachment (1), Statement of Work, with Exhibit A, Contract Data Requirements List, and all other Attachments cited in Section J, which are incorporated by reference into Section C.

#### C-3 REQUIREMENTS FOR ON-SITE CONTRACTORS

For those portions of the work under this contract performed at any NRL site, the contractor shall comply with the Requirements for On-Site Contractors dated 01 October 2002 which are hereby incorporated by reference. The full text is available at <a href="http://heron.nrl.navy.mil/contracts/home.htm">http://heron.nrl.navy.mil/contracts/home.htm</a>.

C-4	SUBCONTRACTING PLAN		
	contracting Plan ference and made a material par	is hereby incorporated	
	(*this provision will be inc	cluded and completed at time	of award, if applicable)
<b>C-5</b> contr	The specific work to be carried carrie	out shall be further described i	n task orders issued under this

### SECTION D PACKAGING AND MARKING

#### D-1 PACKAGING AND MARKING

Preservation, packaging, packing and marking of all deliverable contract line items must conform to normal commercial packing standards to assure safe delivery at destination.

### SECTION E INSPECTION AND ACCEPTANCE

### E-1 INSPECTION AND ACCEPTANCE CLAUSES INCORPORATED BY REFERENCE FAR CLAUSE TITLE

52.246-9 - Inspection Of Research And Development (Short Form) (APR 1984)

#### **DFARS CLAUSE TITLE**

252.246-7000 - Material Inspection And Receiving Report (DEC 1991)

#### E-2 INSPECTION AND ACCEPTANCE

Inspection and acceptance of the final delivery will be accomplished by the Technical Manager (TM) or Contracting Officer Representative (COR) designated in Section G of this contract. Inspection and acceptance will be performed at the Naval Research Laboratory, Washington DC 20375-5320.

### SECTION F DELIVERIES OR PERFORMANCE

#### F-1 DELIVERIES OR PERFORMANCE CLAUSES INCORPORATED BY REFERENCE:

#### FAR CLAUSE TITLE

52.242-15 - Stop-Work Order (AUG 1989) - Alternate I (APR 1984)

52.247-34 - F.O.B. Destination (NOV 1991)

#### F-2 DELIVERIES OR PERFORMANCE

- (a) The effective period of this contract during which delivery orders/task orders may be issued is from date of contract award through five (5) years thereafter.
- (b) Each delivery order/task order shall specify the period of performance.
- (c) Each delivery order/task order shall specify the place of performance.

### SECTION G CONTRACT ADMINISTRATION DATA

#### G-1 PROCURING OFFICE REPRESENTATIVE

In order to expedite administration of the contract, the Administrative Contracting Officer (ACO) will direct inquiries to the appropriate office listed below. Please do not direct routine inquiries to the person listed in Item 20A on Standard Form 26.

Security Matters- Contracting Officer for Security, Code 1221, (202) 767-2240, DSN 297-2240, email security-group@nrl.navy.mil

Safety Matters- Head Safety Branch, Code 1240, (202) 767-2232, DSN 297-2232, email safety@nrl.navy.mil

Patent Matters-Associate Counsel (Intellectual Property), Code 1008.2, (202) 404-1552, DSN 297-1552, email <a href="mailto:patents@nrl.navy.mil">patents@nrl.navy.mil</a>

Release of Data-Public Affairs Officer, Code 1030 (202) 767-2541, DSN 297-2541, email publicaffairs@nrl.navy.mil

#### G-2 CONTRACTING OFFICER'S REPRESENTATIVE (COR) - FUNCTIONS AND LIMITATIONS

\* is hereby designated the cognizant COR who will represent the Contracting Officer in the administration of technical details within the scope of this contract and inspection and acceptance. The COR is not otherwise authorized to make any representations or commitments of any kind on behalf of the Contracting Officer or the Government. The COR does not have the authority to alter the Contractor's obligations or change the specifications in the contract. If, as a result of technical discussions, it is desirable to alter contract obligations or statements of work, a modification must be issued in writing and signed by the Contracting Officer. The COR is responsible for reviewing the bills and charges submitted by the Contractor and informing the ACO of areas where exceptions are to be taken.

( \* To be completed at time of award)

#### G-3 TECHNICAL DIRECTION MEMORANDUM (TDM)

- (a) For the purposes of this clause, technical direction includes the following:
  - (1) Direction to the Contractor which shifts work emphasis between work areas or tasks, requires pursuit of certain lines of inquiry, fills in details or otherwise describes work which will accomplish the objectives described in the statement of work;
  - (2) Guidelines to the Contractor, which assist in interpretation of drawings, specifications or technical portions of, work description.
- (b) Technical instructions must be within the scope of work stated in the contract. Technical instructions may not be used to:
  - (1) Assign additional work under the contract:

- (2) Direct a change as defined in the contract clause entitled "Changes";
- (3) Increase or decrease the estimated contract cost, the fixed fee, or the time required for contract performance; or
- (3) Change any of the terms, conditions or specifications of the contract
- (c) The TDM shall be written by the Contracting Officer's Representative (COR), with the original given to the Contractor and a copy retained in the CORs file. Technical direction may be issued orally only in emergency situations. If technical direction is issued orally, a TDM must follow within two (2) working days from the date of the oral direction. Amendments, corrections, or changes to TDMs shall also be in written format and shall include all the information set forth in paragraph (e) below.
- (d) A TDM shall be considered issued when the Government deposits it in the mail, or if transmitted by other means, when it is physically delivered to the contractor.
- (e) TDMs shall include, but not be limited to, the following information:
  - (1) Date of TDM,
  - (2) Contract Number,
  - (3) Reference to the relevant portion or item in the Statement of Work,
  - (4) The specific technical direction or clarification, and
  - (4) The signature of the COR.
- (f) CORs shall retain all files containing TDMs for a period of two (2) years after the final contract completion date.
- (g) The only individual authorized in any way to amend or modify any of the terms of this contract shall be the Contracting Officer. When, in the opinion of the Contractor, any technical direction calls for effort outside the scope of the contract or inconsistent with this special provision, the Contractor shall notify the Contracting Officer in writing within ten (10) working days after its receipt.

#### G-4 SUBCONTRACTORS/CONSULTANTS

- (a) Advance notification or requests for consent pursuant to the contract clause entitled "Subcontracts" (FAR 52.244-2) shall be directed to the cognizant administrative contracting officer (ACO).
- (b) The following subcontractors/consultants have been identified in the Contractor's proposal as necessary for performance of this contract:

Subcontractor/Consultant Name

**Estimated Cost** 

(Paragraph (b) will be included and filled in at time of award if subcontractor/consultants are proposed by the successful offeror)

#### G-5 NAPS 5252.232-9001 - SUBMISSION OF INVOICES (COST-REIMBURSEMENT, TIME-AND-MATERIALS, LABOR-HOUR, OR FIXED PRICE INCENTIVE (JUL 1992)

- "Invoice" as used in this clause includes contractor requests for interim payments using public vouchers (SF 1034) but does not include contractor requests for progress payments under fixed price incentive contracts.
- (b) The Contractor shall submit invoices and any necessary supporting documentation, in an original and 4 copies, to the contract auditor at the following address:

(To be completed at time of award)

unless delivery orders are applicable, in which case invoices will be segregated by individual order and submitted to the address specified in the order. In addition, an information copy shall be submitted to [See Section G for designated COR]. Following verification, the contract auditor will forward the invoice to the designated payment office for payment in the amount determined to be owing, in accordance with the applicable payment (and fee) clause(s) of this contract.

- (c) Invoices requesting interim payments shall be submitted no more than once every two weeks, unless another time period is specified in the Payments clause of this contract. For indefinite delivery type contracts, interim payment invoices shall be submitted no more than once every two weeks for each delivery orders. There shall be a lapse of no more than 30 calendar days between performance and submission of an interim payment invoice.
- (d) In addition to the information identified in the Prompt Payment clause herein, each invoice shall contain the following information, as applicable:
  - (1) Contract line item number (CLIN)
  - (2) Subline item number (SLIN)
  - (3) Accounting Classification Reference Number (ACRN)
  - (4) Payment terms
  - (5) Procuring activity
  - (6) Date supplies provided or services performed
  - (7) Costs incurred and allowable under the contract

	(8) Vessel (e.g., ship, submarine or other craft) or system for which supply/service is provided
(e)	A DD Form 250, "Material Inspection and Receiving Report",
	is required with each invoice submittal.
	$oxed{\boxtimes}$ is required only with the final invoice.
	is not required.
(f)	A Certificate of Performance
	shall be provided with each invoice submittal.
	is not required.

- The Contractor's final invoice shall be identified as such, and shall list all other invoices (if any) (g) previously tendered under this contract.
- (h) Cost of performance shall be segregated, accumulated and invoiced to the appropriate ACRN categories to the extent possible. When such segregation of costs by ACRN is not possible for invoices submitted with CLIN/SLINS with more than one ACRN, an allocation ratio shall be established in the same ratio as the obligations cited in the accounting data so that costs are allocated on a proportional basis.

#### G-6 INCREMENTAL FUNDING

Orders issued under this contract may be incrementally funded. Incrementally funded orders will contain a provision substantially as follows:

( \* To be completed in each individual task when incrementally funded)

#### G-7 ACCOUNTING AND APPROPRIATION DATA

Each delivery order/task order will contain the accounting and appropriation data for payment under the contract.

### G-8 SPECIAL PAYMENT INSTRUCTIONS- MULTIPLE ACCOUNTING CLASSIFICATION CITATIONS (COST-REIMBURSEMENT)

Payments shall be made in accordance with the ACRN(s) cited on the contractor's invoice. The Contractor may contact the COR regarding which ACRN(s) to cite on an invoice.

#### G-9 INFORMATION REQUIRED FOR SUBMISSION OF EACH ORDER

- (a) The COR or TM assigned in Section G will provide the contractor with a Statement of Work (SOW) for each order. The Contractor shall provide the COR or TM with a proposal in response to the SOW. The COR or TM will prepare an acquisition package and forward to the NRL Contracting Division for issuance of an order.
- (b) Direct Labor Hours, travel and material costs are subject to negotiation prior to award. In order to fully evaluate each order proposal, the contractor shall provide the following as applicable:
  - (1) A time phased (e.g., monthly, quarterly, etc.) breakdown of direct labor by labor category.
  - (2) A complete breakdown for travel identifying each cost mode of travel and the reason for the travel proposed.
  - (3) A complete list of all material including quantity and cost. The contractor shall provide specific documentation to serve as the basis for price verification (i.e., vendor quotations, invoices, published price lists, GSA schedule lists, etc.).

#### G-10 TASK ORDER PROCEDURES FOR INDEFINITE QUANTITY CONTRACTS

The following procedure shall be followed when placing task orders under this contract:

(a) Only properly appointed Contracting Officers employed at the Naval Research Laboratory (NRL) shall issue task orders under this contract.

- (b) A DD Form 1155 will be issued for each task order. The DD Form 1155, "Order for Supplies or Services", shall constitute the instrument for the placement of requirements under this contract.
- (c) Each task order shall be subject to FAR 52.232-20 Limitation of Cost or FAR 52.232-22 Limitation of Funds clause, as appropriate. Each task order is subject to the terms and conditions of the clause in Section H entitled, "Level of Effort Task Orders".
- (d) Prior to the issuance of a task order, the contractor will be provided with the statement of work and shall promptly submit a cost proposal for performing the work. The fixed fee shall be in the same proportion to the estimated cost for each task order as the maximum fixed fee is to the maximum estimated cost for the contract as set forth in Section B.
- (e) Task orders issued shall include, but not be limited to, the following information:
- (1) Date of Order
- (2) Contract Number and Task Order Number
- (3) Accounting and Appropriation Data
- (4) Description of the Work to be Performed
- (5) Level of Effort
- (6) DD Form 1423 (Contract Data Requirements List)
- (7) Place of Performance
- (8) Period of Performance
- (9) Estimated Cost Plus Fixed Fee
- (10) DD Form 254 (Contract Security Classification Specifications)
- (11) List of Government furnished material and the estimated value thereof for each order.
- (f) The ceiling amount for each task order will be the ceiling price stated therein and may not be exceeded except when authorized by a modification to the task order.

### SECTION H SPECIAL CONTRACT REQUIREMENTS

#### H-1 TYPE OF CONTRACT

This is a \*

(\*To be completed at time of award)

#### H-2 ONR 5252.237-9705 - KEY PERSONNEL (DEC 88)

- (a) The Contractor agrees to assign to the contract tasks those persons whose resumes were submitted with its proposal and who are necessary to fulfill the requirements of the contract as "key personnel". No substitutions may be made except in accordance with this clause.
- (b) The Contractor understands that during the first ninety (90) days of the contract performance period,

no personnel substitutions will be permitted unless these substitutions are unavoidable because of the incumbent's sudden illness, death or termination of employment. In any of these events, the Contractor shall promptly notify the Contracting Officer and provide the information described in paragraph (c) below. After the initial ninety (90) day period the Contractor must submit to the Contracting Officer all proposed substitutions, in writing, at least thirty (30) days in advance (sixty (60) days if security clearance must be obtained) of any proposed substitution and provide the information required by paragraph (c) below.

- (c) Any request for substitution must include a detailed explanation of the circumstances necessitating the proposed substitution, a resume for the proposed substitute, and any other information requested by the Contracting Officer. Any proposed substitute must have qualifications equal to or superior to the qualifications of the incumbent. The Contracting Officer or his/her authorized representative will evaluate such requests and promptly notify the Contractor of his/her approval or disapproval thereof.
- (d) In the event that any of the identified key personnel cease to perform under the contract and the substitute is disapproved, the contract may be immediately terminated in accordance with the Termination clause of the contract.

The following are identified as key personnel: \*

(\*To be completed at time of award)

Labor Category	First/M/Last Name

#### H-3 LEVEL OF EFFORT TASK ORDERS

- (a) In the performance of each term form task order issued under this contract, the Contractor agrees to provide the level of effort specified in the task order and in accordance with this provision.
- (b) It is understood and agreed that the rate of direct labor hours expended each month may fluctuate in pursuit of the technical objective, provided such fluctuation does not result in the use of the total hours of effort prior to the expiration of the term of the task order. The Contractor is required to notify the Contracting Officer when 85% of the total level of effort of the task order has been expended.
- (c) If, during the term of the task order, the Contractor finds it necessary to accelerate the expenditure of direct labor under the task order to such an extent that the total hours of effort specified would be used prior to the expiration of the term, the Contractor shall notify the Contracting Officer in writing setting forth the acceleration required, the probable benefits which would result, and an offer to undertake the acceleration at no increase in the estimated cost or fixed fee together with an offer setting forth a proposed level of effort, cost breakdown, and proposed fixed-fee for

continuation of the work until expiration of the term of the task order. If the maximum amount specified in the contract is not adequate to accommodate the anticipated accelerated expenditure of direct labor, the Contractor shall also include in its offer a proposed increase of the maximum amount, cost breakdown, and proposed fixed-fee for the increase. The offer shall provide that the work proposed will be subject to the terms and conditions of this contract and any additions or changes required by current law, regulations, or directives, and that the offer, with a written notice of acceptance by the Contracting Officer, shall constitute a binding contract. The Contractor shall not accelerate any effort until receipt of such written approval by the Contracting Officer. Any agreement to accelerate will be formalized by modification of the order and, if necessary, the contract.

- (d) The Contracting Officer may, by written order, direct the Contractor to accelerate the expenditure of direct labor under a task order such that the labor hours of effort specified therein would be used prior to the expiration of the term. This order shall specify the acceleration required and the resulting revised term. The Contractor shall acknowledge this order within ten days of receipt.
- (f) If the total level of effort specified in each task order is not provided by the Contractor during the term of the task order, the Contracting Officer shall either (i) reduce the fixed fee of the task order as follows:

Fee Reduction = Fixed Fee x (Required LOE Hours - Expended LOE Hours)

Required LOE Hours

or (ii) subject to the provisions of the clause of this contract entitled "Limitation of Cost," require the Contractor to continue to perform the work until the total number of hours of direct labor specified in the task order shall have been expended, at no increase in the fixed fee of the task order.

- (g) In the event the Government fails to fully fund the task order in a timely manner, the term of the task order may be extended accordingly with no change to cost or fee. If the Government fails to fully fund the task order, the fee will be adjusted in direct proportion to that effort which was performed.
- (h) Notwithstanding any of the provisions of the above paragraphs, the Contractor may furnish labor hours up to five percent in excess of the total direct labor hours specified in the task order provided that the additional effort is furnished within the term hereof, and provided further that no increase in the estimated cost or fixed-fee is required, and no adjustment in the fixed-fee shall be made provided that the Contractor has delivered at least 95% of the level of effort specified in the task order.
- (i) It is understood that the mix of labor categories provided by the Contractor under the task order, as well as the distribution of effort among those categories, may vary considerably from the initial mix and distribution of effort, which was estimated by the Government or proposed by the Contractor.
- (j) Nothing herein shall be construed to alter or waive any of the rights or obligations of either party pursuant to the Clause entitled "Limitation of Costs" or "Limitation of Funds," either of which incorporated herein applies to each task order under this contract.

#### H-4 ONR 5252.235-9714 - REPORT PREPARATION (FEB 02)

Scientific or technical reports prepared by the Contractor and deliverable under the terms of this contract will be prepared in accordance with format requirements contained in ANSI/NISO Z39.18-1995, Scientific and Technical Reports: Elements, Organization, and Design.

[NOTE: All NISO American National Standards are available as free, downloadable pdf(s) at <a href="http://www.niso.org/standards/index.html">http://www.niso.org/standards/index.html</a>. NISO standards can also be purchased in hardcopy form from NISO Press Fulfillment, P. O. Box 451, Annapolis Junction, MD 20701-0451 USA. Telephone U.S. and Canada: (877) 736-6476; Outside the U.S. and Canada: 301-362-6904 ax: 301-206-9789.]

#### H-5 ELECTRONIC AND INFORMATION TECHNOLOGY (EIT)

In accordance with Section 508 of the Rehabilitation Act of 1973 (29 U.S.C. 794d), all EIT supplies and services provided under this contract must comply with the applicable accessibility standards issued by the Architectural and Transportation Barriers Compliance Board at 36 CFR part 1194 (see FAR Subpart 39.2). Electronic and information technology (EIT) is defined at FAR 2.101.

#### H-6 ON-SITE USE OF GOVERNMENT PROPERTY

It is anticipated that Government property will be used by the contractor's personnel in the performance of that portion of the contract performed on-site at the U.S. Naval Research Laboratory (NRL) including any of its field sites. Such use will be on a rent free basis and all such property shall be considered to remain in the possession and control of the NRL for property responsibility and accountability purposes.

#### H-7 GOVERNMENT-FURNISHED PROPERTY

The following Government property will be furnished to the contractor on a rent-free basis for use in performing the contract:

(To be completed at time of award)

#### H-8 REPRESENTATIONS AND CERTIFICATIONS

The Contractor's completed Representations, Certifications, and Other Statements of Offerors or Respondents is incorporated herein by reference in any resultant award.

# PART II - CONTRACT CLAUSES SECTION I CONTRACT CLAUSES

#### I-1 52.252-2 - CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

#### http://www.arnet.gov/far http://heron.nrl.navy.mil/contracts/home.htm

#### a. FEDERAL ACQUISITION REGULATION CLAUSES

FAR CLAU	SE	TITLE
52.202-1	-	Definitions (DEC 2001)
52.203-3	-	Gratuities (APR 1984)
52.203-5	-	Covenant Against Contingent Fees (APR 1984)
52.203-6	-	Restrictions On Subcontractor Sales To The Government (JUL 1995)
52.203-7	-	Anti-Kickback Procedures (JUL 1995)
52-203-8	-	Cancellation, Rescission, And Recovery Of Funds For Illegal Or Improper Activity (JAN 1997)
52.203-10	-	Price Or Fee Adjustment For Illegal Or Improper Activity (JAN 1997)
52.203-12	-	Limitation On Payments To Influence Certain Federal Transactions (JUN 1997)
52.204-2	-	Security Requirements (AUG 1996)
52.204-4	-	Printed Or Copied Double-Sided On Recycled Paper (AUG 2000)
52.209-6	-	Protecting The Government's Interest When Subcontracting With Contractors
		Debarred, Suspended, Or Proposed For Debarment (JUL 1995)
52.211-15	-	Defense Priority And Allocation Requirements (SEP 1990)
52.215-2	-	Audit And Records-Negotiation (JUN 1999)
52.215-2	-	Audit And Records-Negotiation (JUN 1999) - Alternate II (APR 1998)
52.215-8	-	Order Of Precedence - Uniform Contract Format (OCT 1997)
52.215-11	-	Price Reduction For Defective Cost Or Pricing Data - Modifications (OCT 1997)
52.215-13	-	Subcontractor Cost Or Pricing Data Modifications (OCT 1997)
52.215-14	-	Integrity Of Unit Prices (OCT 1997)
52.215-15	-	Pension Adjustments And Asset Reversions (DEC 1998)
52.215-17	-	Waiver Of Facilities Capital Cost Of Money (OCT 1997)
		( will be included if the successful offeror does not propose facilities capital cost of money)
52.215-18	-	Reversion Or Adjustment Of Plans For Post-Retirement Benefits (PRB) Other Than
		Pensions (OCT 1997)
52.215-19	-	Notification Of Ownership Changes (OCT 1997)
52.215-21	-	Requirements For Cost Or Pricing Data Or Information Other Than Cost Or Pricing
		Data -Modifications (OCT 1997) - Alternate III (OCT 1997)
52.216-7	-	Allowable Cost And Payment (FEB 2002) (If the contract is with an educational
		institution, modify the clause by deleting from paragraph (a) "Subpart 31.2" and
		substitute "Subpart 31.3". If the contract is with a state or local government, delete
		from paragraph (a) "Subpart 31.2" and substitute "Subpart 31.6". If the contract is with
		a nonprofit other than an educational institution, a state or local government, or a
		nonprofit organization exempted under OMB Circular A-122, modify the clause by
		deleting from paragraph (a) "Subpart 31.2" and substituting "Subpart 31.7".)
52.216-8	_	Fixed-Fee (MAR 1997)
		,

52.219-4	-	Notice Of Price Evaluation Preference For HUBZone Small Business Concerns (JAN
		1999) U Offeror elects to waive the evaluation preference.
52.219-8	-	Utilization Of Small Business Concerns (OCT 2000)
52.219-9	-	Small Business Subcontracting Plan (JAN 2002) - Alternate II (OCT 2001)
52.219-16	-	Liquidated Damages-Subcontracting Plan (JAN 1999)
52.219-25	-	Small Disadvantaged Business Participation Program-Disadvantaged Status And Reporting (OCT 1999)
52.222-2	-	Payment For Overtime Premiums (JUL 1990) -The Use Of Overtime Is Authorized Under This Contract If The Overtime Premium Does Not Exceed "0"
52.222-3	-	Convict Labor (AUG 1996)
52.222-21	_	Prohibition Of Segregated Facilities (FEB 1999)
52.222-26	_	Equal Opportunity (APR 2002)
52.222-35	_	Equal Opportunity For Special Disabled Veterans, Veterans Of The Vietnam Era, And
		Other Eligible Veterans (DEC 2001)
52.222-36	-	Affirmative Action For Workers With Disabilities (JUN 1998)
52.222-37	-	Employment Reports On Special Disabled Veterans, Veterans Of The Vietnam Era, And Other Eligible Veterans (DEC 2001)
52.223-3	_	Hazardous Material Identification And Material Safety Data (JAN 1997)
52.223-5	_	Pollution Prevention And Right-To-Know Information (APR 1998)
52.223-6	_	Drug-Free Workplace (MAY 2001)
52.223-10	_	Waste Reduction Program (AUG 2000)
52.223-14	_	Toxic Chemical Release Reporting (OCT 2000)
52.225-13	_	Restrictions On Certain Foreign Purchases (JUL 2000)
52.227-1	_	Authorization And Consent (JUL 1995)- Alternate I (APR 1984)
52.227-2	_	Notice And Assistance Regarding Patent And Copyright Infringement (AUG 1996)
52.227-10	_	Filing Of Patent Application- Classified Subject Matter (APR 1984)
52.227-10	_	Patent Rights - Retention By The Contractor (Short Form) (JUN 1997)
JZ.ZZ1-11	-	
		(will be included if the successful offeror is a small business or a non-profit
E0 007 10		organization)
52.227-12	-	Patent Rights - Retention By The Contractor (Long Form) (JAN 1997)
		(will be included if the successful offeror is not a small business or a non-profit
50,000,7		organization)
52.228-7	-	Insurance - Liability To Third Persons (MAR 1996)
52.230-2	-	Cost Accounting Standards (APR 1998)
52.230-3	-	Disclosure And Consistency Of Cost Accounting Practices (APR 1998)
52.230-6	-	Administration Of Cost Accounting Standards (NOV 1999)
52.232-9	-	Limitation On Withholding Of Payments (APR 1984)
52.232-17	-	Interest (JUN 1996)
52.232-18	-	Availability Of Funds (APR 1984)
52.232-20	-	Limitation Of Cost (APR 1984) (Applicable when the contract or task order is fully funded)
52.232-22	_	Limitation Of Funds (APR 1984) (Applicable when the contract or task order is not
		fully funded)
52.232-23	-	Assignment Of Claims (JAN 1986) Alternate I (APR 1984)
52.232-25	_	
52.232-25	_	Prompt Payment (FEB 2002) Alternate I(FEB 2002)
J2.202 20		riomper aymone (i LD 2002) ratomato i(i LD 2002)

52.232-33	-	Payment By Electronic Funds Transfer-Central Contractor Registration (MAY 1999)
52.233-1	-	Disputes (JUL 2002)
52.233-1	-	Disputes (JUL 2002) - Alternate I (DEC 1991)
52.233-3	-	Protest After Award (AUG 1996) - Alternate I (JUN 1985)
52.237-2	-	Protection Of Government Buildings, Equipment And Vegetation (APR 1984)
52.237-3	-	Continuity Of Services (JAN 1991)
52.242-1	-	Notice Of Intent To Disallow Costs (APR 1984)
52.242-3	-	Penalties For Unallowable Costs (MAY 2001)
52.242-4	-	Certification of Final Indirect Costs (JAN 1997)
52.242-13	-	Bankruptcy (JUL 1995)
52.243-2	-	Changes - Cost-Reimbursement (AUG 1987) - Alternate V (APR 1984)
52.243-6	-	Change Order Accounting (APR 1984)
52.243-7	-	Notification Of Changes (APR 1984)fill in 30
52.244-2	-	Subcontracts (AUG 1998) - Alternate I (AUG 1998)
52.244-5	-	Competition In Subcontracting (DEC 1996)
52.244-6	-	Subcontracts For Commercial Items (MAY 2002)
52.245-5	-	Government Property (Cost-Reimbursement, Time-And-Material, Or Labor-Hour
		Contracts) (JAN 1986) (DEVIATION)
52.245-18	-	Special Test Equipment (FEB 1993)
52.245-19	-	Government Property Furnished "As-Is" (APR 1984)
52.246-23	-	Limitation Of Liability (FEB 1997)
52.246-25	-	Limitation Of Liability - Services (FEB 1997)
52.247-1	-	Commercial Bill Of Lading Notations (APR 1984)
52.247-63	-	Preference For U. S. Flag Carriers (JAN 1997)
52.249-6	-	Termination (Cost-Reimbursement) (SEP 1996)
52.249-14	-	Excusable Delays (APR 1984)
52.251-1	-	Government Supply Sources (APR 1984)
52.252-6	-	Authorized Deviations in Clauses (APR 1984)( fill in Defense Federal Acquisition
		Regulation Supplement (48 CFR Chapter 2))
52.253-1	-	Computer Generated Forms (JAN 1991)

#### b. DEPARTMENT OF DEFENSE FEDERAL ACQUISITION REGULATION CLAUSES

#### **DFARS CLAUSE TITLE**

DI / (INC OE/NO		
252.201-7000	-	Contracting Officer's Representative (DEC 1991)
252.203-7001	-	Prohibition On Persons Convicted Of Fraud Or Other Defense Contract Related
		Felonies (MAR 1999)
252.203-7002	-	Display Of DoD Hotline Poster (DEC 1991)
252.204-7000	-	Disclosure Of Information (DEC 1991)
252.204-7003	-	Control Of Government Personnel Work Product (APR 1992)
252.204-7004	-	Required Central Contractor Registration (NOV 2001)
252.204-7005	-	Oral Attestation Of Security Responsibilities (NOV 2001)
252.205-7000	-	Provision Of Information To Cooperative Agreement Holders (DEC 1991)
252.209-7000	-	Acquisition From Subcontractors Subject To On-Site Inspection Under The
		Intermediate-Range Nuclear Forces (INF) Treaty (NOV 1995)
252.209-7004	-	Subcontracting With Firms That Are Owned Or Controlled By The Government Of A

		Terrorist Country (MAR 1998)
252.215-7000	-	Pricing Adjustments (DEC 1991)
252.215-7002	-	Cost Estimating System Requirements (OCT 1998)
252.219-7003	-	Small Business And Small Disadvantaged Business Subcontracting Plan (DoD Contracts) (APR 1996)
252.223-7004	-	Drug-Free Work Force (SEP 1988)
252.223-7006	-	Prohibition On Storage And Disposal Of Toxic And Hazardous Materials (APR 1993)
252.225-7001	-	Buy Ámerican Act And Balance Of Payments Program (MAR 1998)
252.225-7002	-	Qualifying Country Sources As Subcontractors (DEC 1991)
252.225-7012	-	Preference For Certain Domestic Commodities (APR 2002)
252.225-7026	-	Reporting Of Contract Performance Outside The United States (JUN 2000)
252.225-7031	-	Secondary Arab Boycott Of Israel (JUN 1992)
252.225-7043	-	Antiterrorism/Force Protection Policy For Defense Contractors Outside The United States (JUN 1998) (fill in : Naval Criminal Investigative Service (NCIS), Code 24,
050 006 7004		telephone, DSN 228-9113 or commercial (202)433-9113)
252.226-7001	-	Utilization of Indian Organizations and Indian-Owned Economic Enterprises-DoD Contracts (SEP 2001)
252.227-7000	-	Non Estoppel (OCT 1966)
252.227-7001	-	Release Of Past Infringement (AUG 1984)
252.227-7013	-	Rights In Technical Data Noncommercial Items (NOV 1995)
252.227-7016	-	Rights In Bid Or Proposal Information (JUN 1995)
252.227-7025	-	Limitations On The Use Or Disclosure Of Government-Furnished Information Marked With Restrictive Legends (JUN 1995)
252.227-7030	-	Technical DataWithholding Of Payment (MAR 2000)
252.227-7034	-	PatentsSubcontracts (APR 1984)
252.227-7036	-	Declaration Of Technical Data Conformity (JAN 1997)
252.227-7037	-	Validation Of Restrictive Markings On Technical Data (SEP 1999)
252.227-7039	-	PatentsReporting Of Subject Inventions (APR 1990)
252.231-7000	-	Supplemental Cost Principles (DEC 1991)
252.235-7010	-	Acknowledgment Of Support And Disclaimer (MAY 1995)
252.235-7011	-	Final Scientific Or Technical Report (SEP 1999)
252.242-7000	-	Post Award Conference (DEC 1991)
252.242-7004	-	Material Management And Accounting System (DEC 2000)
252.243-7002	-	Requests For Equitable Adjustment (MAR 1998)
252.244-7000	-	Subcontracts For Commercial Items And Commercial Components (DOD
		Contracts) (MAR 2000)
252.245-7001	_	Reports Of Government Property (MAY 1994)
252.246-7001	-	Warranty Of Data (DEC 1991)
252.247-7023		Transportation Of Supplies By Sea (MAY 2002)
252.247-7024		Notification Of Transportation Of Supplies By Sea (MAR 2000)
		(will be included if the successful offeror made a negative response to the inquiry
		at DFARS 252.247-7022)
252.251-7000	-	Ordering From Government Supply Sources (MAY 1995)

#### I-2 FAR 52.223-11 - OZONE-DEPLETING SUBSTANCES (MAY 2001)

- (a) Definitions. "Ozone-depleting substance", as used in this clause, means any substance the Environmental Protection Agency designates in 40 CFR Part 82 as
  - (1) Class I, including, but not limited to, chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform; or
  - (2) Class II, including, but not limited to, hydrochlorofluorocarbons.

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(b)	The Contractor shall label p	roducts which contain	n or are manufacture	d with ozone-depleting
substance	es in the manner and to the e	extent required by 42	U.S.C. 7671j (b), (c)	, and (d) and 40 CFR Part
82, Subpa	art E, as follows:			

#### WARNING

Contains (or manufactured with, if applicable) \* , a substance(s) which harm(s) public health and environment by destroying ozone in the upper atmosphere.

\*The Contractor shall insert the name of the substance(s).

#### I-3 FAR 52.216-18 ORDERING (OCT 1995)

- (a) Any supplies and services to be furnished under this contract shall be ordered by issuance of delivery orders or task orders by the individuals or activities designated in the Schedule. Such orders may be issued from date of contract award through five years thereafter.
- (b) All delivery orders or task orders are subject to the terms and conditions of this contract. In the event of conflict between a delivery order or task order and this contract, the contract shall control.
- (c) If mailed, a delivery order or task order is considered "issued" when the Government deposits the order in the mail. Orders may be issued orally, by facsimile, or by electronic commerce methods only if authorized in the Schedule.

#### I-4 FAR 52.216-19 ORDER LIMITATIONS (OCT 1995)

- (a) *Minimum order*. When the Government requires supplies or services covered by this contract in an amount of less than \$100,000, the Government is not obligated to purchase, nor is the Contractor obligated to furnish, those supplies or services under the contract.
- (b) Maximum order. The Contractor is not obligated to honor -
  - (1) Any order for a single item in excess of \$10,000,000
  - (2) Any order for a combination of items in excess of \$20,000,000; or
- (3) A series of orders from the same ordering office within days that together call for quantities exceeding the limitation in subparagraph (1) or (2) above.
- (c) If this is a requirements contract (i.e., includes the Requirements clause at subsection 52.216-21 of the Federal Acquisition Regulation (FAR)), the Government is not required to order a part of any one requirement from the Contractor if that requirement exceeds the maximum-order limitations in paragraph (b) above.

(d) Notwithstanding paragraphs (b) and (c) of this section, the Contractor shall honor any order exceeding the maximum order limitations in paragraph (b), unless that order (or orders) is returned to the ordering office within days after issuance, with written notice stating the Contractor's intent not to ship the item (or items) called for and the reasons. Upon receiving this notice, the Government may acquire the supplies or services from another source.

#### I-5 FAR 52.216-22 INDEFINITE QUANTITY (OCT 1995)

- (a) This is an indefinite-quantity contract for the supplies or services specified, and effective for the period stated, in the Schedule. The quantities of supplies and services specified in the Schedule are estimates only and are not purchased by this contract.
- (b) Delivery or performance shall be made only as authorized by orders issued in accordance with the Ordering clause. The Contractor shall furnish to the Government, when and if ordered, the supplies or services specified in the Schedule up to and including the quantity designated in the Schedule as the "maximum". The Government shall order at least the quantity of supplies or services designated in the Schedule as the "minimum".
- (c) Except for any limitations on quantities in the Order Limitations clause or in the Schedule, there is no limit on the number of orders that may be issued. The Government may issue orders requiring delivery to multiple destinations or performance at multiple locations.
- (d) Any order issued during the effective period of this contract and not completed within that period shall be completed by the Contractor within the time specified in the order. The contract shall govern the Contractor's and Government's rights and obligations with respect to that order to the same extent as if the order were completed during the contract's effective period; provided, that the Contractor shall not be required to make any deliveries under this contract after

# PART III - LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS SECTION J LIST OF ATTACHMENTS

- **J-1** Attachment (1) Statement Of Work 34 Pages, With Exhibit A DD Form 1423, Contract Data Requirements List, 11 Pages.
- **J-2** Attachment (2) DD Form 254, Contract Security Classification Specification, Ser 049-02 Dated 09/03/2002 w/Attachments 2 Pages.
- **J-3** Attachment (3) Personnel Qualifications 34 Pages.
- **J-4** Attachment ( ) Accounting and Appropriation Data- 1 page. \*

(\* To be included at time of award)

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# PART IV - REPRESENTATIONS AND INSTRUCTIONS SECTION - K REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS OR RESPONDENTS

### K-1 REPRESENTATIONS, CERTIFICATIONS, AND OTHER STATEMENTS OF OFFERORS OR RESPONDENTS

Each Offeror must submit a completed Representations, Certifications, and Other Statements Of Offerors or Respondents with its proposal which is available electronically in full text at HTTP://HERON.NRL.NAVY.MIL/CONTRACTS/REPS&CERTS.HTM

Use Representations and Certifications: A

### K-2 FILL IN FOR FAR 52.219-1 - SMALL BUSINESS PROGRAM REPRESENTATIONS (MAR 2001)

The fill in information is as follows:

The NAICS code for this acquisition is <u>541330</u> The small business size standard is .**\$23.0M** 

## SECTION L INSTRUCTIONS CONDITIONS AND NOTICES TO OFFERORS OR RESPONDENTS

#### L-1 52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FEB 1998)

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es):

http://www.arnet.gov/far http://heron.nrl.navy.mil/contracts/home.htm

#### FAR CLAUSE TITLE

52.204-6 - Data Universal Numbering System (DUNS) Number (JUNE 1999)

52.214-34 - Submission Of Offers In The English Language (APR 1991)

52.214-35 - Submission Of Offers In U.S. Currency (APR 1991)
 52.215-1 - Instructions To Offerors- Competitive Acquisition (MAY 2001)
 52.215-5 - Facsimile Proposals (OCT 1997)
 52.215-16 - Facilities Capital Cost Of Money (OCT 1997)
 52.219-24 - Small Disadvantaged Business Participation Program - Targets (OCT 2000)
 52.222-24 - Preaward On-Site Equal Opportunity Compliance Evaluation (FEB 1999)
 52.237-10 - Identification Of Uncompensated Overtime (OCT 1997)

#### **DFAR CLAUSE TITLE**

252.209-7001- Disclosure Of Ownership Or Control By The Government Of A Terrorist Country (MAR 1998)

252.211-7005 - Substitutions For Military Or Federal Specifications And Standards (OCT 2001)

#### L-2 INSTRUCTIONS FOR SUBMISSION OF PROPOSALS/OFFERS

All proposals shall be submitted in accordance with FAR 52.215-1- *Instructions to Offerors-Competitive Acquisition*. Proposals/offers submitted in paper media through the United States Postal Service (USPS) or delivery services shall be addressed to:

Contracting Officer, ATTN: Code <u>3230.MM</u>
Naval Research Laboratory(NRL)
4555 Overlook Avenue, S.W.
Washington, D.C. 20375
Solicitation/RFP No. – N00173-03-R-MM01
Closing Date: \_\_\_\_\_\_Time\_\_\_\_\_\_\_

Proposals may be hand delivered to the Contracting Office, NRL, 4555 Overlook Avenue, S.W., Washington, D.C. 20375, Building 222, Room 115 between the hours of 8AM until 4PM, local time, excluding weekends and federal holidays. NRL is a controlled-access facility. Photo identification will be required. Report first to Building 72, Visitor Control for access to NRL. After receiving a Visitor Pass, proceed directly to Building 222, Room 115, Contracting Office Receptionist to deliver the proposal. All offerors shall allow sufficient time for delivery of their proposal to the Contracting Office prior to the closing date and time announced in the solicitation. Directions and additional information about NRL is available at <a href="http://www.nrl.navy.mil/aboutdc.htm">http://www.nrl.navy.mil/aboutdc.htm</a>

If facsimile proposals are authorized, contracting officers may request offeror(s) to provide the complete; original signed proposal at a later date.

### L-3 FAR 52.211-14 - NOTICE OF PRIORITY RATING FOR NATIONAL DEFENSE USE (SEP 1990)

Any contract awarded as a result of this solicitation will be a  $\square$  DX rated order;  $\boxtimes$  DO rated order certified for national use under the Defense Priorities and Allocations system (DPAS) (15 CFR 700), and the Contractor will be required to follow all of the requirements of this regulation.

### L-4 FAR 52.215-20 REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA (OCT 1997) ALTERNATE IV (OCT 1997)

- (a) Submission of cost or pricing data is not required.
- (b) Provide information described below:

The offeror shall submit a cost proposal with supporting information for each cost element consistent with offeror's cost accounting system. The supporting breakdown should include such elements as materials, direct labor, indirect costs, and other costs such as travel. The offeror shall provide exhibits as necessary to substantiate the cost elements. Should rates be used in the proposal which are not DCAA approved, the offeror shall provide complete documentation and the rationale for their use at time of proposal submission.

#### L-5 FAR 52.216-1 - TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a Indefinite Delivery Indefinite Quantity type contract with Cost Plus Fixed Fee Term task orders resulting from this solicitation.

#### L-6 ANTICIPATED DISTRIBUTION OF DIRECT LABOR HOURS BY LABOR CATEGORIES

The following is the anticipated distribution by labor category of the maximum level of effort. This distribution shall be used by the offeror in preparing the cost proposal. If the offeror uses labor category terminology other than that used in this provision, the offeror must provide a matrix clearly relating their proposed labor categories to those in this provision.

	Hours
Labor Category	Per Year
Program Manager	2,288
Project Engineer	11,440
Program Control Analyst	2,288
Computer Engineer I	6,864
Computer Engineer II	27,456
Computer Scientist I	16,016
Computer Scientist II	41,184
Network Administrator I	18,304
Network Administrator II	13,728
Database Analyst I	6,864
Database Analyst II	4,576
Security Administrator	4,576
Project Assistant	9,152
Total hours for first year:	164,736

The total five year maximum level of effort is 823,680 labor hours.

#### L-7 FAR 52.233-2 - SERVICE OF PROTEST (AUG 1996)

- (a) Protests, as defined in Section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO) shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from the Control Desk, Code 3200, Bldg. 222, Rm. 115, Naval Research Laboratory, 4555 Overlook Ave., S.W., Washington DC 20375-5326.
  - (b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

### L-8 DFARS 252.227-7017 - IDENTIFICATION AND ASSERTION OF USE, RELEASE, OR DISCLOSURE RESTRICTIONS (JUN 1995)

- (a) The terms used in this provision are defined in following clause or clauses contained in this solicitation—
  - (1) If a successful offeror will be required to deliver technical data, the Rights in Technical Data--Noncommercial Items clause, or, if this solicitation contemplates a contract under the Small Business Innovative Research Program, the Rights in Noncommercial Technical Data and Computer Software--Small Business Innovative Research (SBIR) Program clause.
  - (2) If a successful offeror will not be required to deliver technical data, the Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation clause, or, if this solicitation contemplates a contract under the Small Business Innovative Research Program, the Rights in Noncommercial Technical Data and Computer Software-Small Business Innovative Research (SBIR) Program clause.
- (b) The identification and assertion requirements in this provision apply only to technical data, including computer software documents, or computer software to be delivered with other than unlimited rights. For contracts to be awarded under the Small Business Innovative Research Program, the notification requirements do not apply to technical data or computer software that will be generated under the resulting contract. Notification and identification is not required for restrictions based solely on copyright.
- (c) Offers submitted in response to this solicitation shall identify, to the extent known at the time an offer is submitted to the Government, the technical data or computer software that the Offeror, its subcontractors or suppliers, or potential subcontractors or suppliers, assert should be furnished to the Government with restrictions on use, release, or disclosure.
- (d) The Offeror's assertions, including the assertions of its subcontractors or suppliers or potential subcontractors or suppliers shall be submitted as an attachment to its offer in the following format, dated and signed by an official authorized to contractually obligate the Offeror:

Identification and Assertion of Restrictions on the Government's Use, Release, or Disclosure of Technical Data or Computer Software.

The Offeror asserts for itself, or the persons identified below, that the Government's rights to use, release, or disclose the following technical data or computer software should be restricted:

	Technical Data Computer Software			Name of Person
	to be Furnished	Basis for	Asserted Rights	Asserting
-	With Restrictions*	Assertion **	Category ***	Restrictions****
	(List)****	(List)	(List)	(List)

- \* For technical data (other than computer software documentation) pertaining to items, components, or processes developed at private expense, identify both the deliverable technical data and each such items, component, or process. For computer software or computer software documentation identify the software or documentation.
- \*\* Generally, development at private expense, either exclusively or partially, is the only basis for asserting restrictions. For technical data, other than computer software documentation, development refers to development of the item, component, or process to which the data pertain. The Government's rights in computer software documentation generally may not be restricted. For computer software, development refers to the software. Indicate whether development was accomplished exclusively or partially at private expense. If development was not accomplished at private expense, or for computer software documentation, enter the specific basis for asserting restrictions.
- \*\*\* Enter asserted rights category (e.g., government purpose license rights from a prior contract, rights in SBIR data generated under another contract, limited, restricted, or government purpose rights under this or a prior contract, or specially negotiated licenses).
- \*\*\*\* Corporation, individual, or other person, as appropriate.
- \*\*\*\*\* Enter "none" when all data or software will be submitted without restrictions.

Date	
Printed Name and Title	
Signature	

(End of identification and assertion)

- (e) An offeror's failure to submit, complete, or sign the notification and identification required by paragraph (d) of this provision with its offer may render the offer ineligible for award.
- (f) If the Offeror is awarded a contract, the assertions identified in paragraph (d) of this provision shall be listed in an attachment to that contract. Upon request by the Contracting Officer, the Offeror shall provide sufficient information to enable the Contracting Officer to evaluate any listed assertion.

### L-9 DFARS 252.227-7028 - TECHNICAL DATA OR COMPUTER SOFTWARE PREVIOUSLY DELIVERED TO THE GOVERNMENT (JUN 1995)

The Offeror shall attach to its offer an identification of all documents or other media incorporating technical data or computer software it intends to deliver under this contract with other than unlimited rights that are identical or substantially similar to documents or other media that the Offeror has produced for, delivered to, or is obligated to deliver to the Government under any contract or subcontract. The attachment shall identify - -

- (a) The contract number under which the data or software were produced;
- (b) The contract number under which, and the name and address of the organization to whom, the data or software were most recently delivered or will be delivered; and
- (c) Any limitations on the Government's rights to use or disclose the data or software, including, when applicable, identification of the earliest date the limitations expire.

#### L-10 GOVERNMENT-FURNISHED PROPERTY

No material, labor, or facilities will be furnished by the Government unless provided for in the solicitation.

#### L-11 INQUIRIES CONCERNING THE RFP

Any questions concerning the RFP must be submitted in writing to the Contracting Officer at the location noted in blocks 7 and 9 of the Standard Form 33, "Solicitation, Offer and Award," no less than fifteen (15) days before closing. The Government will not consider questions received after this date. Offerors are cautioned against directing any questions concerning this RFP to technical personnel at the Naval Research Laboratory.

#### L-12 PROPOSAL ORGANIZATION

- (1) Information for the technical/management proposal shall be placed in Volume I and be completely separate from the business proposal (Volume II).
- (2) Proposal Format and Length No attempt is made to restrict the proposal format and style. However, the proposal should be written and organized so as to be compatible with the RFP, the Statement of Work, company's organization and accounting structure, and proposed cost estimate. Offerors are encouraged to use recycled paper and maximize the use of double sided copying when preparing responses to solicitations.

### L-13 INSTRUCTIONS FOR SUBMISSION AND INFORMATION REQUIRED TO EVALUATE PROPOSALS

(1) Information for the technical and management proposal shall be placed in Volume I and be completely separate from the cost proposal (Volume II).

(2) Proposal Identification/Mailing - The proposal should be packaged for delivery so as to permit safe and timely arrival at destination. The proposal package should be sent to the address shown in Block 7 of the RFP face page and marked:

Solicitation No. N00173-03-R-MM01 Closing Date: (As specified in Block 9, RFP face page) Attn: Code 3230.MM

- (3) Proposal Format and Length Volume I containing both the management and technical proposal should be limited to 100 but must not exceed 150 pages. This limit extends to all introductory comments, overviews, illustrations, graphics, appendices and other pertinent information. No attempt is made to restrict the proposal format and style. However, the proposal should be written and organized so as to be compatible with the RFP, the Statement of Work, company's organization and accounting structure, and proposed cost estimate. Offerors are encouraged to use recycled paper and maximize the use of double sided copying when preparing responses to solicitations.
- (4) The following information is required for evaluation of your technical/management and cost proposal. Any additional information may be provided.

#### **VOLUME I - TECHNICAL/MANAGEMENT PROPOSAL**

#### **REQUIRED COPIES: 1 ORIGINAL AND 3 COPIES**

Offerors are encouraged to submit an electronic copy of their proposal on a CD ROM or PC formatted disk in addition to their paper copies. This is in an effort to further the Government's ambitions of operating in a paperless environment.

- (1) Include a matrix indicating proposed labor hours by skill category required to perform the statement of work. This matrix shall not contain labor rates or any other indication of price. Please note that the contractor must propose in accordance with the level of effort breakdown identified in Section H of this Solicitation.
  - (2) The following information is required for evaluation of your technical/management :

QUALIFICATIONS OF PROJECT PERSONNEL - The proposer should provide convincing proof that it has, or has the ability to obtain, personnel with relevant experience in the scientific and technical areas described in the Statement of Work. These are highly specialized fields and personnel without actual experience in these areas are not acceptable. Attachment (4) of the Solicitation sets forth the desired qualifications. It is essential for the offeror to demonstrate that all key personel will be capable of obtaining a TOP SECRET clearance. The proposal should indicate the specific personnel to be assigned to this effort, their background and pertinent experience, and the amount of the effort each will be performing on this contract. This will include the education level experience (both general and project related), and availability of sufficient key project professional and technical personnel by the p rime contractor as well as any proposed subcontractors.

<u>COMPANY EXPERIENCE</u> - The proposer should provide a narrative description of company experience on projects with scientific and technical tasks similar to those required in the Statement of Work. This description should clearly show the relationship between the company's experience and the tasks required under the Statement of Work (particular sciences must be addressed) and, provide details, such as project descriptions and identification of the sponsoring agencies.

TRANSITION PLAN - The proposer should provide a narrative description of the Transition Plan that clearly shows how the company plans to establish adequate facilities, equipment, program management, and controls to accomplish the tasks in the Statement of Work, within the transition period, in a manner that minimizes the impact to the work schedules. Major interrelationships, among transition events should be indicated on the schedule. The impact of these interrelationships, along with a description of how transition delays are mitigated, should be explained in the Transition Plan. The proposal should demonstrate the management controls, procedures and methods necessary to assure accomplishment of procurement, subcontracting, status reporting, security, and personnel staffing.

(5) The Proposer should provide resumes for all key personnel. The following information is recommended:

Name: Labor Category: Function or Product Ar	ea:		<u> </u>
1. Post High School	l Education:		
College/University	No. Credit Hours Completed	Date (s) Attended	Year & Type of Degree & Major

If Alternative provisions for a degree are used, they should be identified and expanded upon in this section.

2. Experience - Describe experience as it relates to the labor category for which it is submitted. Include the various work and resonsibilities you have performed or as they relate to a functional area. A Program Manager's resume should include the specific product (s), e.g., TRIDENT IIMK 6 Guidance System, Etc., and engineer's resume should contain the specific function (s), e.g., quality assurance, reliability, maintainability or safety etc. The individuals resume should describe the work experience within the past ten years. Experience prior to that time may be documented if the individuals recent experience is in another line of work or previous work experience required greater managerial/technical expertise. Each period of work experience should be listed in the format shown below:

Dates of Employment:

Title of Position:

**Employer and Place of Employment:** 

Name of Supervisor and his/her Telephone number:

Kind of business or Organization:

Security Clearance (Type and Date):

Reason for leaving the Position:

Description of Duties, Responsibilities and Accomplishments:

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3. Awards (monetary or other types):

Title of Award Date Presented By Reason for & Nature of Award

- 4. Publications, patents, consultation services, etc. If the individual for whom the resume is being submitted has had articles published, indicate the title of the article, where it was published, and in what year. Describe any patents the individual has obtained (include the year the patent was awarded) describe individuals experience in serving as a consultant to private industry and the government. Indicate the type of consultant services the individual provided and the fee that was received. How frequently did the individual provide the consulting services?
- 5. Managerial/Leadership Describe supervisory responsibilities. Include: (1) The number and kinds of workers you directed; (2) the complexity of the work you directed i.e., was it a small unit performing one basic function or did you direct a large organization composed of a diversity of functional and product areas; (3) the number of years of supervisory experience; (4) individual experience as it relates to estimating material, manpower, and equipment needs; scheduling work flow and work assignments; (5) financial management responsibilities (including size of annual budget); (6) special awards or accomplishments you received as a supervisor, and (7) other information relative to your skill as a manager/supervisor.

#### **VOLUME II - BUSINESS PROPOSAL**

#### REQUIRED COPIES: 1 ORIGINAL AND 3 COPIES

#### (1) COST PROPOSAL

- (a) The offeror shall submit a business proposal that includes a cost proposal with supporting information for each cost element consistent with offeror's cost accounting system. The supporting breakdown should include such elements as materials, direct labor, indirect cost, and other costs such as travel. The offeror shall provide exhibits as necessary to substantiate each cost element. Should rates be used in the proposal which are not DCAA approved, the offeror shall provide complete documentation and the rationale for their use at time of proposal submission. However, offerors are advised to use actual labor rates of proposed personnel as the basis for estimating labor costs when practicable.
- (b) It is requested that offerors provide one copy of their cost proposal on a PC formatted disk or CD Rom using software that is compatible with Microsoft Excel Version 5.
- (c) TRAVEL AND MATERIAL ESTIMATES (FOR EVALUATION PURPOSES ONLY)
  - (1) The government estimates the travel costs for this effort to be \$300,000 per year.
  - (2) The offerors shall include an amount of \$300,000, per year for materials and supplies to be procured for the performance of the contract.
  - (3) All offers will be evaluated using the estimated amounts provided above plus applicable indirect costs.

#### L-14 PAST PERFORMANCE INFORMATION

(a) Offerors shall submit the following information as part of their proposal. (Offerors are encouraged to submit the information prior to other parts of the proposal to assist the government in reducing the length of the evaluation period.) List the last five (5) contracts or subcontracts completed during the past two years for services similar in nature to this requirement. If the requested number of contracts have not yet been completed, offerors should include in their list any contracts that have been in progress for at least one year prior to the date of this solicitation. Offerors that have no similar previous or current contracts should provide the requested information for proposed subcontractors that will perform major or critical aspects of the requirement or for the proposed project manager or key personnel responsible for major or critical aspects of the requirement.

- 1. Name of contracting organization.
- 2. Contract number
- 3. Contract type
- 4. Total contract value
- 5. Description of the contract work
- 6. Contracting officer and telephone number
- 7. Contracting officer's representative, program manager, or similar official and telephone number
- (b) Offerors shall contact the contracting organizations identified pursuant to paragraph (a) as soon as possible and request them to send past performance information on the identified contracts to the address in Block 7 of the face page of this solicitation. The past performance report (Attachment Number (5))is to be provided to the contracting organization for this purpose. If the contracting organization has already collected past performance information on the contract pursuant to FAR Subpart 42.15, the format used to collect the information may be used instead of the past performance report.
- (c) Offerors may include in their proposals specific information relating to problems encountered in performing the identified contracts and any corrective actions by the offeror. Offerors should not provide general information on their performance on the identified contracts as this will be obtained from the contracting organizations.

#### L-15 PLACEMENT OF TASK ORDERS AT TIME OF AWARD

The Government anticipates issuing multiple task orders concurrently with the contract award. The combined minimum level of effort will be 95,680 hours, as stated in B-2. The rates negotiated for the first year will be utilized. The total combined travel and materials will not exceed \$275,989. The Statement of Work will be the same as that of the basic contract. Task Order procedures under G-8 will apply with the exception of the first sentence under paragraph (d).

### SECTION M EVALUATION FACTORS FOR AWARD

#### M-1 EVALUATION

Award will be made to that offeror whose proposal is determined to be the best value to the Government, proposed cost and other factors considered. The Government reserves the right to make award to other than the low offeror. Although technical considerations are more important than the cost factor, the closer the technical scores of the various proposals are to one another, the more important the business considerations become.

#### M-2 EVALUATION FACTORS FOR AWARD

Proposals will be evaluated in accordance with the following criteria. The technical factor is more important than the cost factor. The technical subfactors are listed in descending order of importance with Personnel Qualifications being significantly more important than the remaining technical subfactors, and technical subfactors (4) and (5) having equal weight.

#### M-2-1. TECHNICAL/MANAGEMENT

#### (1) QUALIFICATIONS OF PROJECT PERSONNEL

The proposed personnel will be evaluated on the offeror's demonstrated ability to provide personnel with: (1) the appropriate qualifications set forth in Attachment (2) of this Solicitation; (2) actual relevant experience in the technical and scientific areas set forth in the Statement of Work; and (3) the ability to obtain a TOP Secret clearance prior to commencing work.

#### (2) COMPANY EXPERIENCE

The proposal will be evaluated on the offeror's demonstrated company experience in performing projects requiring scientific and technical effort, which is closely similar or related to the effort required by the Statement of Work. Experience in supporting efforts involving space and avionic systems will be given the greatest consideration.

#### (3) TRANSITION PLAN

The proposal will be evaluated on the offeror's transition plan which outlines the strategy for assuring a smooth and effective transition between the offeror's organization and personnel and the incumbent contractor's personnel into the ongoing system development, maintenance, and operations efforts. The proposal will be evaluated on the offeror's ability to complete all the transition activities within 90 days after contract award.

#### (5) PAST PERFORMANCE

Past performance will be evaluated on the basis of the quality of the work performed, timeliness of performance, cost control, and business relations. The evaluation will be based on the information provided pursuant to Section L and other sources if available. The evaluation will take into account past performance information regarding predecessor companies, subcontractors that will perform major or critical aspects of the requirement, or the proposed project manager or key personnel responsible for major or critical aspects of the requirement. Offerors that have no relevant performance history or for which past performance information is not available will not be evaluated favorably or unfavorably on past performance. The government may begin proposal evaluation prior to receipt of past performance information. If, after completion of proposal evaluation except evaluation of past performance, the contracting officer determines that evaluation of past performance will not affect the outcome of competitive selection, the contracting officer may waive its evaluation in accordance with FAR 15.304(c)(3)(iv).

#### M-2-2 COST TO THE GOVERNMENT

Proposed estimated cost to the Government. The Government may adjust the proposed cost for purposes of evaluation based upon an evaluation of cost realism. Cost Realism means that the costs in an offeror's proposal are realistic for the work to be performed; reflect a clear understanding of the requirements; and are consistent with the various elements of the offeror's technical proposal. The cost realism evaluation includes an analysis of the adequacy of the hours, labor mix, and other direct costs to perform the work as proposed in the technical proposal as well as the proposed labor and indirect rates. It also includes evaluation of the likelihood that the risks inherent in the offeror's technical approach will result in higher actual costs than anticipated.

# STATEMENT OF WORK FOR SOFTWARE OF ENGINEERING SUPPORT

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#### **3 REQUIREMENTS**

The requirements covered in this SOW apply to a variety of software-related projects. The contractor shall provide the support services at the NRL in Washington, D.C; a local contractor facility within twenty minutes of the NRL; NAVSOC in Point Mugu, CA.; the Midway Research Center Stafford, VA; or at the contractor's main facility as required. For presentation purposes, the work is described as separate categories. This should not undermine the requirements for the contractor to coordinate all efforts to full advantage of the synergistic benefits available from working the project as a whole. The work categories are:

- a) <u>Sustaining Engineering</u>. A significant portion of the contracted effort is for ongoing efforts that require continued development. These efforts involve maintenance and upgrade of existing systems, completion of initiated projects, and new efforts that are tightly coupled to existing systems.
- b) <u>Advanced Systems</u>. The work in this category represents implementations of software projects that have been defined, but not yet initiated; or are anticipated, but not completely defined, such as new programs. While the work done on these projects must draw on NRL's internal software inventory and procedures, it is singular enough to include here and not be catalogued under the Sustaining Engineering classification.
- c) <u>Advanced Studies</u>. This work category requires the contractor to provide systems engineering for projects that are in the conceptual phase. NRL is constantly evaluating the potential of using new technologies to help with the overall DoD mission. This work can lead to new programs or extensive modifications to existing programs. The contractor shall provide expertise in software related areas and participate in those evaluations.
- d) <u>Program Management</u>. The effort described herein covers a diverse set of requirements that have been purposely grouped under a single SOW in recognition of the potential synergistic benefits of doing them as a whole. The contractor shall manage the technical, financial, and contractual aspects of this program to optimize those benefits.

The contractor shall maintain an office in the Washington, D.C. area within twenty minutes of the NRL for permanently hosting part of their personnel, for providing lab areas and appropriate office space for their workers from other locations when their presence is required at NRL.

## 3.1 SUSTAINING ENGINEERING

The work described in this section involved contractor efforts for projects that have already been initiated. These tasks range from operations and maintenance to major upgrades and enhancements. Some of the involved software products have been in use for several years and are applied across a number of different programs. The software is, at times, made available to other NRL vendors as Government Furnished Equipment (GFE) for development of NRL applications. The vendor using these existing systems frequently requires assistance with these products. That assistance shall be provided by the contractor as part of this contracted effort.

In general, the contractor shall provide systems and software engineering support as described under the next two subheadings. These tasks apply to all sustaining engineering projects. Following these generic task descriptions, the specific tasks associated with the support required for sustaining engineering are covered by category.

## 3.1.1 Systems Engineering

The contractor shall provide the systems engineering needed to specify requirements defining changes to the system operation, performance, architecture and configuration as determined by the NRL authority for each sustaining engineering project. Trade studies and analysis shall be performed to assess applicable new technologies and emerging standards that could be effectively applied to current projects. The contractor shall recommend evolutionary upgrades and approaches for each project that provide benefits to the government. The contractor shall maximize software reuse, COTS utilization, and conformance to industry and government standards to reduce the overall cost and risk in the development and operation of these projects. The contractor shall provide and maintain a System Engineering Management Plan (SEMP) that includes all sustaining engineering projects. A master schedule for each of the efforts shall be included with the SEMP. The contractor shall define and maintain a risk management plan so that risks may be identified and managed in a timely manner. The risk management process shall involve the cognizant NRL representative. This risk management plan shall be incorporated in the SEMP.

The deliverable for this task is:

CDRL# Description

A001 System Engineering Management Plan (SEMP) as Required

# 3.1.2 Software Engineering

The contractor shall provide the software engineering needed to implement the recommendations and requirements that result from the systems engineering task. As a minimum, the software engineering task shall produce and maintain a Software Development Plan, a Software Requirements Specification, and a Version Descriptions Document (VDD) for each sustaining engineering product baseline. The contractor shall utilize standard processes, practices, and methodology consistent with Level III of the Software Engineering Institutes (SEI) Software

Capability Maturity Model in performing this task. Inclusive to the Software Engineering task, the contractor shall provide test and integration engineering to deploy product baselines successfully. As a minimum, a regression test suite and methodology must be defined and maintained to minimize operational risk when deploying a new baseline. The contractor shall perform the configuration management and software maintenance in order to maintain the baseline for each of the sustaining engineering projects. To facilitate this task, the contractor shall develop a Configuration Management Plan (CMP) for all of the sustaining engineering projects. Software Engineering deliverables are listed at the project level.

#### **3.1.3 OS/COMET**

NRL utilizes various versions of OS/COMET to support mission operations and satellite integration and test.

#### 3.1.3.1 OS/COMET Maintenance

The contractor shall maintain and provide upgrades to OS/COMET for users associated with NRL programs or facilities.

## 3.1.3.2 OS/COMET Configuration Management and Control

The contractor shall develop and maintain an OS/COMET configuration management and software change control system.

#### 3.1.3.3 Deliverables

CDRL# Description

A002 OS/COMET Version Description Document as Required
A003 OS/COMET Configuration Management Plan as Required

# 3.1.4 Ground Station and Payload Support

The NRL is involved in the development, enhancement, operation and maintenance of many ground station efforts. This base provides an opportunity to maximize software architecture, and to design reusable products that reduce overall cost and risk to the government. Under previous contracts, the NRL has already established a general approach, architecture, and set of products to support these ground station efforts. The contractor shall provide recommendations to evolve the approach, architecture, and products to take advantage of emerging technology and standards.

Similar to the ground station efforts, the NRL is involved in the development, enhancement, integration, test, operation, and maintenance of many space-based payloads. While the payloads are mission unique, there is still an opportunity to normalize onboard architectures, test approaches, and products to reduce overall cost and risk to the government. For example, the NRL utilizes the same core ground station architecture for building payload test and integration

systems. The NRL achieves a high payoff when these systems are operated at an NRL-developed ground station. For example, the Dispenser and Secondary experiments, spacecraft, and payloads respectively, are operated and maintained at the NRL-managed Blossom Point Tracking Facility (BPTF). The same displays, command and telemetry database, reports, memory load and dump tools that were developed during integration were migrated to operations without incurring any new development or modification costs.

## 3.1.4.1 Blossom Point Tracking Facility (BPTF)

The NRL-operated BPTF located in La Plata, MD is used for engineering and operational support of NRL related spacecraft. The station is highly automated and has been used as a technology insertion facility for other ground station supports. Generic software is produced for the BP applications and is then transferred to the support of other ground stations. While the majority of support services for the sustainment of BPTF is available under a separate contract, the contractor shall provide the systems and software engineering needed to augment the work performed under that contract.

#### 3.1.4.1.1 BPTF Conversion

The contractor shall support the on-site BPTF personnel with any migration of the BPTF from NRL COMET to OS/COMET v4.x. This support will include, but not be limited to, technical consulting with regards to installation and operation of OS/COMET v4.x, troubleshooting problems that arise during the transition, communicating problem reports and enhancement requests back to the development team, collecting and disseminating status of the development team (problem reports and enhancement requests). This work may require an extended on-site presence.

#### 3.1.4.1.2 Deliverables

CDRL#	Description
A004	BPTF plan to transition to OS/COMET v4.x
A038	Monthly transition status (each month during any proposed transition)
A039	Monthly list and status of problem reports and enhancement requests

## 3.1.4.2 NRL Test Range Facilities (MRC)

In accordance with industry and military standards, the Contractor shall provide requirement analysis, design, and development of software, firmware, documentation, and testbed integration for NRL Test Range Programs, and their associated communications systems and interfacing subsystems.

## 3.1.4.2.1 Software Engineering Analysis

The Contractor shall provide the following software engineering and analysis capabilities in support of NRL Test Programs:

- Perform software system concept formulation analysis and feasibility determinations.
- Develop and document system architecture criteria for new system software development and for modification of existing systems.
- Prepare impact studies related to the addition, deletion, or modification of software requirements to existing and new programs.
- Analyze system requirements, identify software engineering requirements, and perform trade off studies.
- Support the preparation of software engineering documentation which include, but not limited to, the following:
  - Software Requirements Specification
  - Interface Requirements Specification
  - Software Development Plan
- Provide independent analysis, verification and validation of systems software from other developers. Analyze design documentation and test results to verify compliance with systems requirements. Review test plans and procedures to verify test conduct will properly validate conformance to requirements.

## 3.1.4.2.2 OS/COMET 4.x Integration & Application Development

The contractor shall support the efforts to integrate OS/COMET 4.x into the MRC environment. The contractor shall support the on-site MRC personnel with any migration of the MRC from the current software to OS/COMET v4.x. This support will include, but not be limited to, technical consulting with regards to installation and operation of OS/COMET v4.x, troubleshooting problems that arise during the transition, communicating problem reports and enhancement requests back to the development team, collecting and disseminating status of the development team (problem reports and enhancement requests). This work may require an extended on-site presence.

## 3.1.4.2.3 Software Design and Development

The Contractor shall provide software design and development resources to support NRL Test Range Programs:

- Develop the preliminary top level design of each Computer System Configuration Item (CSCI) for NRL Test Range programs. Provide sizing and timing estimates and develop risk management procedures, documentation for top level designs or updates to existing top level designs, and conduct or participate in NRL PDR.
- Develop detailed modular design for each CSCI. Document the detailed design or update existing detailed design for each CSCI in all appropriate formal documents, which include, but are not limited to:
  - Interface Control Documents (ICDs)

- Software Test Description (STD) Document
- Software Development Plan (SDP)
- Software Product Specification (SPS)
- Perform and document informal software design reviews and support formal NRL Program design reviews.
- Develop and support revisions to systems software, applications software, and simulation software. Produce source and object code, and conduct code walk reviews.
- Modify source code and object code as a result of independent testing. Update all related software documentation with test results and changes to the software design and code.
- Update source and object code in response to approved problem reports and software action requests. Update all related software documentation.
- Provide software utilizing both structured coding techniques in support of legacy systems, as well as utilizing an object oriented programming approach for new systems and development programs using the Rational Unified Process.
- The Contractor shall conform to standards, processes, and guidelines for developing software set forth by the NRL Test Range Facilities.

## 3.1.4.2.4 Software Integration and Test

The Contractor shall support the following software test and evaluation tasks required to support NRL Test Range Facilities developed under this contract, and/or pre-existing programs under development:

- The Contractor shall perform functional and performance software evaluations, and formal and informal testing of the systems, subsystems, component and interfacing systems. The Contractor shall also perform requalification of the systems for operational acceptance.
- The Contractor shall develop software test plans and test procedures, which will be used during all formal testing of NRL Test Range Facilities and associated interfaces. Upon completion of formal testing, test reports will be developed and delivered to NRL, which include, but are not limited to: Trouble Reports, Discrepancy Reports, Engineering Change Requests and Software Action Requests.
- The Contractor shall develop, maintain and re-validate the software support tools necessary to conduct system performance evaluations. These tools will be revised for compatibility with future upgrades and newly developed systems for interface test requirements.
- Independent Verification and Validation (IV&V) shall be applied, by the Contractor at the request of the NRL, to determine whether or not the products of a given phase of the software development lifecycle fulfill the customer requirements; and evaluate

software at the end of its development process to ensure compliance with software requirements and to ensure that the software system performs to customer and NRL expectations under operational conditions.

- Software Test Procedure Development which includes custom software development to test and exercise all software interfaces.
- Develop requirements and specifications for establishment of additional NRL Test Range Facilities.

#### 3.1.4.2.5 Infrastructure

The contractor shall provide support to develop a new Common Command and Control System for the MRC. MRC's current control infrastructure is comprised of several independent and hard to operate and maintain control systems. The current systems are based on obsolete hardware platforms using software that is minimally documented. The contractor shall provide support to develop a common core set of functionality that will serve as the basis for the gradual development and integration of the unique functionality for each of the MRC elements. A major goal will be the development and demonstration of the capability to control a single RF string in MRC's Autostar asset. After that, one asset will be delivered at a time.

The Infrastructure upgrade will be developed during eight development iterations leading to eight formal deliveries to the MRC, each delivery focused on a particular MRC asset (or set of assets).

The software will be developed within the incremental/iterative life cycle model. This life cycle model is characterized by a series of relatively short iterations that produce complete subsets of functionality, starting with items that seem to be of the highest risk. Planning, requirements definition, analysis, design, implementation, and test are performed during each iteration.

The Rational Unified Process (RUP) will be the basis for the development process. The process consists of 4 phases (inception, elaboration, construction, and transition) with multiple iterations in each phase. Rational software development tools are being used to create a development model, create artifacts, generate code, generate test data, find path coverage, and find memory leaks.

## 3.1.4.2.6 Resource Scheduling Tool

An effort has been initiated to review and document requirements for a resource scheduling tool for the MRC. Following the requirements documentation process, technical options will be assessed and a recommended approach and cost estimate will be prepared. Customer responsiveness at a reasonable cost is the overall goal of this task. This requires the tool to have extensive interactive capabilities and be flexible, extendable, maintainable, and have a high level of code reuse. The contractor shall provide the systems engineering to assist the MRC for the requirements analysis. The contractor shall also provide the software engineering to develop and implement this tool. MRC envisions this tool will be a combination of COTS and custom development. This tool shall conform to the OS/COMET system and Application Program

Interface (API) so than an OS/COMET client interface can access the scheduling tool from any MRC node.

## 3.1.4.2.7 Deliverables

CDRL#	Description
A005	MRC Software Development Plan as Required
A006	MRC Software Requirements Specification as Required
A044	Interface Control Documents (ICDs) as Required
A045	Software Test Description (STD) Document as Required
A047	Software Product Specification (SPS) as Required
A048	Software IV&V report as Required

## 3.1.4.3 Naval Satellite Operation Center (NAVSOC)

NRL is teamed with the Naval Satellite Operations Center (NAVSOC) headquartered at Point Mugu, CA in the support of Navy space programs. NAVSOC is a Navy Space Command organization dedicated to the operation of several Navy satellite systems. NAVSOC is tasked with providing On-Orbit Engineering Support and management to the Fleet Satellite (FLTSAT) Communications (FLTSATCOM) system, Geodetic Satellite (GEOSAT) Follow-On (GFO) constellation, Ultra High Frequency (UHF) Follow-On (UFO) constellation and its variants (UFO, UFO/E, UFO/EE, and UFO/G), and Polar-EHF constellation. NAVSOC performs Telemetry, Tracking and Commanding (TT&C) of the FLTSAT constellation, UFO constellation, and GFO constellation and Telemetry and Commanding (T&C) of the Polar-EHF constellation.

In order to conduct satellite real-time support, NAVSOC utilizes the command and control resources of the Air Force Satellite Control Network (AFSCN). The Integrated Satellite Control System (ISCS) utilizes the Space Ground Link System (SGLS) and EHF antenna subsystems at remote sites as remote tracking facilities. These remote ground stations contain resources necessary to conduct operations of satellite systems.

Detachment ALFA (DET-A) is located at Prospect Harbor, Maine and supports Polar/EHF Payload, FLTSAT, UFO and GFO Programs with its SGLS and EHF antennas. Laguna Peak is located adjacent to NAVSOC HQ and supports FLTSAT, UFO and GFO Programs with its SGLS antenna. Detachment CHARLIE (DET-C) is located in Guam and supports the FLTSAT, UFO and GFO with its SGLS and EHF antennas. Detachment DELTA (DET-D) is located at Shriever AFB, Colorado Springs, Colorado. The primary function of DET-D is to serve as an alternate SOC for NAVSOC HQ. DET-D performs routine satellite contacts with the AFSCN and has the capability to perform and coordinate satellite operations in the event NAVSOC HQ is disabled.

The teaming relationship between NRL and NAVSOC was established to take advantage of NRL's expertise in development of ground systems and NAVSOC's expertise in the operating of space systems. The goal of the team is to promote the effectiveness of the Navy's spaceborn systems. In this relationship, NRL is responsible for providing NAVSOC technical assistance required to help sustain and enhance their ground support system and their unclassified LAN and WAN. This assistance comes in five forms:

- a) Sustainment Support of the ISCS,
- b) Enhancement Support,
- c) Migration of the ISCS,
- d) Configuration Management Support
- e) Network Infrastructure Support

NAVSOC has a physically distributed, networked computerized system with detachments in Prospect Harbor, ME (Det-A), Colorado Springs, CO (Det-D), and in Guam (Det-C), with the central systems located at headquarters in Point Mugu.

## 3.1.4.3.1 Sustainment Support of the ISCS

The contractor shall provide sustainment support for the ISCS system at HQ and its detachments. This task requires on-site support at headquarters for assistance in isolating and repairing system software problems. The contractor shall also maintain configuration control of the software and its accompanying support databases. The Real-Time support software run by NAVSOC uses COMET and OS/COMET for its core support components. The contractor shall have the capability to build and troubleshoot COMET and OS/COMET applications. The contractor shall also be responsible for the design and the Software Design Documents and implementation of system upgrades that are identified as required by NAVSOC management to NRL.

## 3.1.4.3.2 Enhancement Support

The contractor shall be responsible for enhancements of the ISCS to incorporate support for ground station functional enhancements and future satellites and constellations. As NAVSOC changes its concept of operations and as NAVSOC makes changes to its ground system, the contractor shall be responsible to enhance the ISCS software to accommodate these changes. As NAVSOC is given responsibility to support other satellites, the contractor shall be required to enhance the ISCS to support these satellites.

#### 3.1.4.3.3 Migration of the ISCS

The contractor shall provide the support and necessary software licenses for migrating the current ISCS "Classic COMET" to "Open-System COMET" (OS-COMET) version 4.x for the FLTSAT and UFO constellations. The migration shall include the incorporation of the PEGS into the overall ISCS architecture. The upgraded ISCS will utilize both SUN and PC based architecture. The migrated system shall duplicate the existing functions of the current system as identified in the overall system requirements.

Support shall encompass systems architecture development/analysis, software development, software integration and testing, configuration management, and program management. Additionally, support will entail the training of NAVSOC personnel in the operation and maintenance of the upgraded system.

## 3.1.4.3.4 Configuration Management Support

The contractor shall provide configuration management support to NAVSOC to include documentation control, database maintenance and system research. Contractor supplied personnel shall work with the NAVSOC lead Configuration Manager (334A).

- a) Operational Systems. The NAVSOC operational systems under configuration control are the Integrated Satellite Control System (ISCS), Polar EHF Ground System (PEGS), FLTSAT EHF Package Operations Center (FEPOC) and GFO Doppler Tracking System (GDTS). Support of these systems shall be conducted utilizing the NAVSOC Error Analysis and Enhancement Reporting System (EAERS) and NAVSOC Change Proposal (NCP) system. In addition the POLAR EHF configuration management will be conducted using NAVSOC designated software and databases.
- b) Administrative System. The contractor shall provide configuration management of the unclassified administrative system (LAN/WAN). Contractor personnel shall maintain a database of equipment configurations for all file servers, PC system and peripheral devices and shall document upgrades and changes that are traceable to the original system configuration.

## 3.1.4.3.5 Network Infrastructure Support

The contractor shall provide hardware and software administration for the NAVSOC unclassified local area network (LAN) and wide area network (WAN). The maintenance of the LAN/WAN system is to include but not limited to desktop computers, file servers, printers, routers, switches, email systems, internet connections. The contractor shall provide for the continued monitoring, protection against and removal of software viruses. The contractor shall maintain an up to date knowledge of current trends in computer technology and shall submit written recommendations for upgrades to the NAVSOC system. Specific contractor LAN/WAN software knowledge requirements are as follows:

- a) Shall be experienced with Microsoft Exchange Server 5.5, 2000 and provide systems administration and maintenance for both local and remote users. NAVSOC has approximately 25 dial in remote accounts.
- b) Shall be experienced with and provide end-user support for Microsoft Outlook 2000 email client and personal information manager.
- c) Shall be experienced with and provide administration and support for Microsoft Internet Information Server (IIS).
- d) Shall be experienced with Microsoft 2000 Server and provide network administration for the following Microsoft 2000 Servers:

- (1) A Microsoft Mail Exchanger
- (2) A Primary Domain Controller (PDC)
- (3) A Backup Domain Controller (BDC)
- e) Shall be experienced with and provide end-user support for the Requisition Procurement System Version III (RPSVIII).
- f) Shall be experienced with and provide end-user support for the 3270 emulator package NS Elite or STARS and DoD Civilian Payroll systems.
- g) Shall be experienced with and provide end-user support and network administration for the new DoD procurement system, DPAS.
- h) Shall be experienced with and provide end-user support for Form-Flow based FEDFORMS applications.
- i) Shall be experienced with and provide end-user support to the DoD Gateguard, Message Dissemination System (MDS), Message Distribution Utility (MDU) suite of software, and the Defense Message System (DMS) and suit of software.
- j) Shall insure that all administration and management software and hardware is IT-21 compliant and meet all Information Security (INFOSEC) policies and guidance including SECNAV instructions.
- k) Shall have experience with the CISCO 7000 series routers and integrate all hardware upgrades and maintain firmware and software upgrades associated with the router. Certified Cisco Network Administrator required.
- Shall have experience with the Cisco 3500XL and 4000 series workgroup family of Ethernet switches, and integrate all hardware additions and maintain firmware and software upgrades associated with this LAN backbone switches.
- m) Shall have experience with the Shomiti network analyzer to monitor the network traffic, protocols and performance to help isolate and correct fault tolerances and to ensure operational integrity.
- n) Shall configure, integrate, maintain and backup data using Veritas' Backup Exec software on all file servers used onsite by NAVSOC personnel.
- o) Shall configure, integrate and maintain the American Power Conversion (APC) Matrix 5000 UPS System and software.
- p) Shall configure, integrate and maintain all desktop Microsoft Windows and Microsoft 2000 Professional based PCs and notebook computers used locally as well as remotely by NAVSOC personnel.
- q) Shall have experience maintaining and updating application and utility software used by NAVSOC on the unclassified networks. A variety of software applications are used by NAVSOC however; the primary suite is Microsoft Office 2000 Premium.

#### 3.1.4.3.6 Deliverables

CDRL# Description

A007 Monthly Status Reports as Required

A008 Cost Reports as Required

A009 Documented and tested software source code in support of EAERs, STRs, and

NCPs as Required

#### 3.1.4.4 Global Broadcast System Software Development

The contractor shall provide software development, integration, and support for NRL's GBS receiver development program. This software and related products shall:

- 1. Receive via ethernet and process a down linked MPEG-2 Transport Stream
- 2. Render the video and audio for a select Program Stream contained in the Transport Stream
- 3. Render a selected close captioning stream.

#### 3.1.4.5 High Speed Vessel System Support

The contractor shall provide System level support for NRL's HSV C4I implementation. This shall include the development of special application/HSV specific software to support the unique requirements of the HSV C4I system. The contractor shall also provide onboard support and enduser training as necessary.

## 3.1.4.6 Improved Airborne Command & Control Capability (IAC3) Support

The contractor shall provide software development and system support for the Marine IAC3 program. Software development shall include the development of a new JCIT waveform to provide single channel, encrypted ASK/FSK voice support. This waveform shall allow the JCIT to inter-operate with various existing military tactical radios including:

- SINCGARS (SC and PT modes only).
- PSC-5 (SC UHF/AM mode only) radios.
- ARC-164/KY-99/KY-58 for UHF/AM/ASK using VINSON mode.

The contractor shall also provide upgrades to the existing JCIT Web Browser control interface to support program specific requirements.

Finally, the contractor shall support integration and testing at NRL and provide on-site exercise support as necessary.

#### 3.1.4.7 Universal Communication Interface Module (UCIM) Support

The contractor shall provide systems engineering and software development support for NRL's UCIM project. Specific areas of contractor support shall include:

- Upgrade of JCIT software to be JTRS/SCA 2.x compliant (JTRS pathfinder)
- Software development in support of various special interfaces including:
  - legacy radio control interface systems and devices,
  - Voice over IP (VoIP) systems,
  - digital intercom systems,
  - remote control interfaces,
  - antenna systems and interfaces, and
  - power systems.

## 3.1.4.8 On-Board Processor (OBP)

The OBP is a custom flight subsystem built for NRL consisting of bit-slice processors that provide on-board processing. This system is already deployed and is operational. The contractor shall provide the resources required to support the On-Board Processor. Support for OBP consists of flight and ground systems.

## 3.1.4.8.1 OBP Flight Software Support

The contractor shall provide flight software support for the existing NRL OBP program comprised of the Mini-OBP and the full OBP Ada simulation and micro-code implementations. This effort would include supporting the NRL OBP Engineering Control Board (ECB) by analyzing problem reports (PRs) or algorithm enhancement requests. Enhancements shall have a focus on improving spacecraft functionality, extending mission life and shall include the identification and assessment of new technologies and their applicability to this program. Lastly, the contractor shall conduct regression tests of both new flight code and database loads as required.

CDRL# Description

A010 Incremental Delivery of OBP Flight Software – required as needed

A011 Software Problem Report Support – required as needed

# 3.1.4.8.2 OBP Ground Software Support

The contractor shall provide operations and maintenance support of the existing NRL OBP Data Base Support System (DBSS) system and associated algorithms. This effort will be in support of the NRL OBP ECB, including the generation and / or analysis of problem reports. This effort shall also provide for DBSS algorithm improvement, emphasizing automation and reliability and with the goal of reducing the burden of daily operations.

The contractor shall provide maintenance and enhancements of existing OBP support tools in support of both the Mini-OBP and the full OBP. The automation of operations and maintenance activities may require additional tools.

The contractor shall provide support to edit, publish, and maintain all project-related data items. The contractor shall provide for the quality and control of the deployed software configuration and the maintenance thereof.

## 3.1.4.9 System Modeling and Resource Tools (SMART)

#### 3.1.4.9.1 Mission Management Tools

The System Modeling and Resource Tools (SMART) are comprised of a set of PC NT based software tools that focuses on ways to automate and improve mission management tasking. The contractor shall provide support to the NRL Mission Management team by providing maintenance / enhancements to the existing SMART tools and developing any new tools that might assist the mission management team in the future.

CDRL#	Description
A012	Incremental Delivery of SMART Software Tools – required as needed
A013	Software Problem Report Support - required as needed
A014	New Mission Planning Tools – required as needed

#### 3.1.4.9.2 Multi-Mission Management

The Multi-Mission Management software provides the ability to perform coordinated multi-mission management. This includes the means to eliminate redundant coverage, provide augmented coverage, schedule dual coverage and consolidate ground resources. The contractor shall provide support to the NRL Mission Management team by providing maintenance / enhancements to the existing software and developing any new functionality that might assist the mission management team in the future.

CDRL#	Description
A015 needed	Incremental Delivery of Multi-Mission Management Software – required as

## 3.1.4.10 Mission Operations Training System (MOTS)

The MOTS is a ground based processing system hosted on a Compaq Alpha that processes mission data. The contractor shall provide continued support for the existing Mission Operations Training System (MOTS) with an emphasis on operations and maintenance of the deployed system and support for further enhancements as directed. This effort will include support for but not be limited to:

- Monitor operations, investigate system anomalies, provide analysis and make recommendations to the OBP ECB.
- Implement approved PRs from the OBP ECB.
- Add new users as directed.
- Adjust system filtering as needed.

- Support system builds, regression testing and configuration management of the code/data base loads.
- Support BPTF Operators
- Support integration and regression testing of Ada 95 based simulation.
- Investigate system loading; look for ways to improve performance; identify system bottlenecks.
- Provide training support

CDRL# Description

A016 Incremental Delivery of MOTS Software – required as needed

## 3.1.4.11 Pre-Configured Interface Payload (PCIP)

The PCIP consists of 19 distributed rad-hardened MIPS R-3000 processors (RHC-3001). The PCIP provides a general purpose computing capability interfaced to a S-Band Interface Equipment (SBIFE), 1553B and Mission Data Network (MDN). The contractor shall provide the resources required to support the flight code for the PCIP and it's associated ground software as detailed below.

## 3.1.4.11.1 PCIP Flight Software

The PCIP flight software includes the infrastructure required to support applications and the applications themselves. Infrastructure includes the Real Time Operating System and Flight Diagnostics. The contractor shall provide support for applications as directed by the Government.

## 3.1.4.11.1.1 Real Time Operating System (RTOS)

The Real Time Operating System (RTOS) provides the environment for PCIP applications to interface to the PCIP hardware. In general it provides the services required to send and receive inter-processor messages, process commands, respond to status requests, manage power and provide time services. These services are layered on top of the COTS VxWorks Operating System.

The contractor shall provide the resources required to provide incremental deliveries at the Government's direction of the current operational C version of the RTOS. This task involves support software as follows:

- PR support analyze PRs, make recommendations, incorporate fixes / modifications / enhancements as required.
- Support incremental deliveries of RTOS to the ITF.
- Support testing at the ITF

In addition, the contractor shall provide the resources required to execute the integration and test of the new Ada 95 version of the RTOS with current PCIP Applications and bring the Ada RTOS to an operational state.

CDRL# Description

A017 Incremental Delivery of RTOS (C Version) Software – required as needed

A018 Incremental Delivery of RTOS (Ada Version) Software – required as needed

## 3.1.4.11.1.2 Flight Diagnostics (FDX)

The PCIP flight software suite includes diagnostics designed to provide verification of the systems operability. The contractor shall provide the resources required to provide incremental deliveries at the Government's direction of the operational version. This task involves support software as follows:

- PR support analyze PRs, make recommendations, incorporate fixes / modifications / enhancements as required.
- Support incremental deliveries to the ITF.
- Support testing at the ITF

CDRL# Description

A019 Incremental Delivery of Flight Diagnostics Software – required as needed.

## 3.1.4.11.1.3 PCIP Applications

The PCIP flight software includes applications targeted to take advantage of the unique processing configuration of the PCIP. The contractor will provide the services as directed by the Government to support the existing applications and support the development of other applications as they arise.

## 3.1.4.11.2 PCIP Ground Support Software

## 3.1.4.11.2.1 Advanced Processing System

The Government has sponsored the development of advanced processing algorithms for eventual hosting on the PCIP. These algorithms have been simulated in Ada and are currently hosted on a Compaq Alpha. The contractor shall provide the resources to continue this effort to include:

- Support enhancements / modifications to the Ada simulations on the Compaq Alpha.
- Work with the algorithm designers to enhance algorithm implementations with the goal of optimizing those algorithms to run efficiently.
- Support any required modifications to the RTOS interface utilizing the interfaces provided via the GFE RTOS simulator.
- Compare results with legacy system.

#### CDRL# Description

A020 Incremental Delivery of Advanced Processing Algorithm Simulation Software – required as needed

## 3.1.4.11.2.2 **OS/COMET Support**

OS/COMET support at the NRL Integrated Test Facility (ITF) includes support for the Scenario Test Set (STS) and the PCIP Telemetry Decommutation Function. The contractor shall provide engineering support to maintain OS/COMET and the application interfaces for both systems. This support will include any ASI enhancements or modifications as requested.

In addition, OS/COMET provides the man / machine interface for the PCIP High Fidelity Emulator (HFE). This interface will provide the application developers the interface to command the HFE and to display status / results and debug their applications. Debug capabilities as breakpoints, watch points, instruction traces will be supported. The contractor shall provide the resources to support this interface for HFE O&M.

CDRL# Description

A021 Incremental Delivery of OS/COMET APIs – required as needed

## 3.1.4.11.2.3 High Fidelity Emulator (HFE)

NRL has sponsored the development of a high fidelity, hardware emulation of the multiprocessor PCIP computer. This emulation utilizes a suite of high performance computers connected via ATM. The hardware emulation of the R3000 processor is complete. Debug utilities to support the application developers are planned. These capabilities shall include but not be limited to: display status / results, set breakpoints, watch points, instruction traces. The contractor will provide the resources to implement these additional capabilities.

These enhancements will be followed by O&M support to implement enhancements and fix problems as the application developers use the emulator. All modifications / enhancements will be done per direction by the PCIP ECB. The contractor will provide the resources to implement said modifications / enhancements.

CDRL# Description

A022 Incremental Delivery of HFE Software – required as needed

## 3.1.4.11.2.4 Software Tool Support

The contractor shall provide maintenance and enhancements of existing PCIP support tools. The automation of operations and maintenance activities may require additional tools.

CDRL# Description

## 3.1.4.12 Dispenser and Secondary Payloads

NRL has developed an upper stage vehicle called Dispenser for "dispensing" other payloads. The contractor shall support the mission operations of the already launched Dispenser vehicles at the BPTF as required. The contractor shall provide resources with the necessary expertise to support anomaly resolution for all Dispenser subsystems. The contractor shall also provide the resources with the expertise to support patches and table loads to the Dispenser Attitude Control software. The contractor shall provide resources with the expertise to maintain assembler source code for the Texas Instrument 9989 processor. The contractor shall also provide the expertise with the MicroCats spacecraft controller at the level required to support the generation and upload of stored commands for the Dispenser Vehicle.

After accomplishing its primary upper stage function, the Dispenser platform is used as a space craft bus for supporting independent missions, The supported mission payloads have been labeled as "secondary" to differentiate them from payloads flown on the cargo spacecraft. Contractor participation is required for the flight support of the secondary payloads.

The contractor shall perform the operations and maintenance of the Dispenser and Secondary software baseline.

CDRL# Description

A024 Dispenser and Secondary Software Source Changes as Required

# 3.1.5 Information Systems and Network Administration

The scope of this effort is to perform the design, development, and maintenance of the NCST SPACEMIS, SECMIS and NRL databases required to integrate scientific, technical, and management data into a cohesive, operable reference system. For these tasks, the contractor shall use Oracle relational database management software and its networking methods. The contractor shall:

- a) preview and adapt newly acquired 3rd party and layered products software packages as required into the NRL database applications programs,
- b) demonstrate to and train users how to utilize the various applications,
- c) document each application,
- d) provide the NRL user community with a ready source of expertise to assist in utilization of the programs and databases.

Systems are currently hosted on a Digital Alpha Unix computer system and an assortment and variety of microcomputer workstations (e.g. SUN Stations, HP, SGI, PCs, and Macintosh) distributed across buildings throughout NRL and its related remote sites. Numerous software packages and utilities are available to satisfy many of the reporting requirements across the user community. There are, however, requirements to tailor these packages and databases to meet specific needs of NRL and sponsors as well as the end use community within the NCST. NCST

provides similar Oracle services in a classified environment through a secure management information system component of SPACEMIS called Security Management Information System (SECMIS).

The end users shall use Internet/Intranet Web Browsers and Client/Server applications to interface with all information systems. All shall conform to a standard Graphical user Interface (GUI).

#### 3.1.5.1 SPACEMIS Management Information System

The contractor shall apply the methods and procedures development on other NRL database support tasks to maintain a Management Information System (MIS) that the NCST will use for the financial and administrative management of the tasks described here and for other work being done by the NCST. The contractor shall provide the resources to develop and maintain the following applications:

- a) Job Cost Tracking System (JCTS), financial management and budgeting
- b) Personnel Records System (PRS), personnel administration
- c) Action Log, task tracking
- d) Asset management System (AMS), equipment tracking
- e) Task Priority Database System (TPDB), problem resolution and tracking
- f) Other applications as required to manage NCST business related functions

The contractor shall provide integration with other Management Information Systems across NRL including but not limited to IMPS, Personnel, Security, ect. These Management Information Systems may be hosted on a variety of operating systems including Windows NT, UNIX, and VMS using various software platforms including but not limited to Oracle, Informix, Microsoft Access, Microsoft Excel, PRO\*C, PERL, HTML, UNIX shell script and PL/SQL. The contractor shall provide database administration support to NCST applications including but not limited to, database administration, database performance monitoring and tuning, database backup and recovery services, and Oracle web application server administration.

## 3.1.5.2 Security Administration and Security Management Information Systems

The contractor shall constantly monitor and conduct analysis of system activity for security breaches. Tools are configured to constantly monitor the computing and network assets. The tools generate text and graphical based reports. Security reports need to be analyzed for break-in attempts, unacceptable directory structure security, invalid user file access, and network vulnerabilities. The contractor will randomly run password-cracking programs on servers to validate secure passwords. The contractor shall interface with the NRL Information Systems Security in order to implement the required computer security procedures. The contractor will provide the required banners and warnings which will be placed on all computer systems where necessary. Virus detection software will be implemented and updated as new viruses are introduced and detected. The contractor shall perform Computer, Networking and Web security to conform to NRL Security procedures as listed below.

Deputy Secretary of Defense memorandum of 7 Dec 98, "Web Site Administration"

[cover for "Web Site Administration Policies & Procedure", dated 25 Nov 98.]

SECNAV message 211930Z OCT 98, "Department of the Navy Worldwide Web Policy" NRLINST 5239.1, NRL ADP Security Program

NRLNOTE 5239 of 12 May 99, Security of NRL Computer Networks

NRLINST 5720.2F, Public Affairs Program

DODI 5230.29, Security and Policy Review of DOD Information for Public Release

NRLINST 5600.2, Publications Program

DOD 5400.7-R, DOD Freedom of Information Act Program

SECNAVINST 5510.36A, Department of the Navy Information Security Program Regulation

NRLINST 5215.1P, NRL Directives System

The contractor shall use monitoring tools that are supplied with the operating system software, third party products, contractor products and developed procedures to view and evaluate system performance and security logs. Users through visual observance or communications interfaces also introduce security issues. Using the same evaluation process, security issues are analyzed and tracked. Security breaches and vulnerabilities are identified and submitted to management and security for review when appropriate. The contractor shall interface with the Security office to enlist their support for additional tests of computer systems for system vulnerabilities if needed.

The contractor shall upgrade and maintain a Security Management Information System (SECMIS). This system consists of software applications, which include but are not limited to custom developed Oracle applications. For the SECMIS, the contractor shall provide the support required to create, maintain, administer, enhance, and document the development and maintenance of the SECMIS databases. The contractor shall provide training to the NRL and other contractors on how the databases can be productively used for reporting information and for data entry.

The contractor shall upgrade and maintain a Security Management Information System (SECMIS). This system consists of software applications, which include but are not limited to custom developed Oracle applications. For SECMIS, the contractor shall provide the support required to create, maintain, administer, enhance, and document the development and maintain of the SECMIS databases. The contractor shall provide training to NRL and other contractors on how the databases can be productively used for reporting information and for data entry.

#### 3.1.5.3 Database Analysis, Studies, and Prototyping

The contractor shall perform prototyping & emerging database technology for the purpose of recommending upgrades and enhancement that would benefit the government. Particular emphasis is placed on Internet and intranet tools, standards, and approaches. In particular, the contractor shall:

- a) Develop a requirements documents and database test set as a baseline for evaluating new database technology and applications.
- b) Research literature on emerging technology.

- c) Prototype applications using candidate technology and tools including consideration for the following platforms: UNIX, PC, MAC, and others as required.
- d) Provide studies relating to MIS technology.
- e) Provide Analysis and study reports.

#### 3.1.5.4 Deliverables

CDRL#	Description
A025	SPACEMIS Technical Status Monthly
A026	SPACEMIS Network Maps Quarterly
A027	SPACEMIS License registration DB Yearly
A028	SPACEMIS Management Summary & Cost report Monthly
A029	SPACEMIS Users Manual Updates
A030	SECMIS Users manual Updates

# 3.1.6 Network/Computer System Administration

The projects covered in this SOW are administered, monitored, developed, and executed over local area networks (LANs) connected through wide area networks (WANs). These networks are critical to the success of NRL efforts. NRL requires contractor support to maintain each node on these networks and the communication infrastructure that integrates the nodes into a system.

# 3.1.6.1 Node Support

Currently, the NRL and contractor personnel use the computer systems listed below for managing the tasks described in this SOW and other NRL tasks. These systems require almost total availability. Also, the software on these systems must provide a wide range of functionality from text editing to complex design analysis. Much of the software is common and is accessed through server systems.

SYSTEM	Quantity
Windows 2000 Advance Server	1
Windows 2000 Exchange Server	1
Windows 2000 Server	4
Alpha Server	1
HP 9000 MODEL 755	1
SUN SPARC Station	2
Macintosh	10
IBM (or DELL) PC	63
SGI	2

A partial list of the COTS software supported on these systems is:

a) HP-UX Operating system (UNIX)
b) SGI Operating System (Irix)
c) Apple Talk
d) SUNOS (Solaris)
e) SUN C
f) SUN PASCAL
g) SUN FORTRAN
h) Multinet TCP/IP
i) Norton Utilities
j) Retrospect Remote
k) Appleshare
I) HP C
m) HP FORTRAN
n) Canvas
o) Microsoft Office
p) Eudora
q) Exchange 2000
r) Windows NT & 2000 OS
s) Outlook 98 & 2000
t) Form Flow Filler
u) McAfee virus Scan Software
v) QVT and Putty
w) Networker and Retrospect Server
x) Oracle Internet Applications Server (IAS)
y) Oracle Developer
z) Oracle Reports Server
aa) Oracle Forms Server
ab) Oracle Enterprise Manager
ac) Tool for Oracle Applications Developers (TOAD)
ad) Oracle Discovered
ae) Oracle PRO*C
af) Perl
ag) Unix Shell
ah) Oracle Designer
ai) SQL*Plus
aj) SQL*Net

The contractor shall provide the support required to manage the diverse and heterogeneous set of NRL workstations, servers, and other processor systems. Through the use of server systems, the contractor shall be responsible for coordinating the common software that is available and run on each of the node systems. The contractor shall recommend and oversee the purchase of COTS products that will improve the performance or functionality of the various systems. The contractor shall assist NRL in managing the licensing of the software and help track purchases and distribution.

#### 3.1.6.2 Network Support

The contractor shall assist NRL in the management and maintenance of its communication networks. The contractor shall configure and install all of the requisite physical interfaces, gateways, communications protocols, and linkages needed to operate the networks. The contractor shall be responsible for the COTS software packages that are used to maintain network viability and functionality, including access to the Internet. The contractor shall provide assistance to individual net users and shall assist in configuring the nodes so that they can fully participate in the network. The contractor shall assist in configuring the network software and hardware so that ready access is available to peripheral equipment such as printers and storage devices. The contractor shall support NRL in planning the most effective manner to adapt the network to new COTS software and hardware products that are needed to optimize use of the network.

## 3.2 ADVANCED SYSTEMS

The contractor shall provide the systems and software engineering and related products described in the following subsections for use on new NRL programs. While these efforts involve new work, the contractor must take advantage of existing NRL facilities, inventory, and capabilities. The contractor's exposure to ongoing efforts is expected to lead to a higher level of reuse of existing products for these new tasks.

The first subsection describes the generic tasks required of the contractor to support NRL when responsibility for a new space program is assigned. To support new efforts the contractor shall supply the general engineering support for system engineering, software engineering, test engineering, and launch and mission operations. As work on new programs progress more specific requirements and tasks shall be defined.

# 3.2.1 New Space And Technology Programs

NRL will assume the responsibility for the management, systems engineering, development, deployment, and operations for one or more new space programs during the period of performance of this contract. This task supports the development of flight, ground, test, and operations software that may be required for these programs. The intent of this section of the SOW is to specify the types of engineering activities and deliverables the contractor shall provide in support of NRL new space programs.

## 3.2.1.1 System Engineering

The contractor shall provide systems engineering related to the development of flight and ground systems for these new programs. Pertinent activities shall include development of the concept of operations, development of system requirements, evaluation of hardware and software technology relevant to the new program, and allocation of the system requirements to hardware configuration items (HWCIs) and computer software configuration items (CSCIs). Emphasis will be placed on architecture considerations, design issues and the reuse of existing NRL products and technology.

## 3.2.1.2 Software Engineering

The contractor shall provide software engineering related to the development of flight and ground systems for the new program and shall develop a software flight design document. Pertinent activities shall include development of software requirements, software design, prototyping, code development, and unit testing for each of the CSCIs.

#### 3.2.1.3 Test Engineering

The contractor shall provide test engineering related to the validation and verification of all CSCIs required for the new program. In addition, the contractor shall develop test plans and procedures and reports for box, subsystem, platform, and system integration of the vehicle. The contractor shall augment the NRL integration and test effort by supporting the integration and test teams and in troubleshooting activities.

## 3.2.1.4 Integration Engineering

The contractor shall provide integration test capabilities to verify that the entire system is operational. This integration capability shall represent, as closely as possible, the actual operational environment.

#### 3.2.1.5 Launch and Mission Operations

The contractor shall provide support to the launch and mission operations of the new programs. This support includes participation in launch and flight teams responsible for these activities. The contractor shall develop any NRL specific software and automated procedures that may be required to support these operations.

#### 3.2.1.6 Deliverables

CDRLS	Description
A031	Software Development Plans as Required
A032	Software Requirement Specifications as Required
A040	Software Test Plans as Required
A041	Version Description Documents as Required
A042	Software Source Code as Required

#### 3.3 ADVANCED STUDIES

The contractor shall perform studies for evaluation of concepts and design for new programs. NRL is constantly evaluating new space and technology projects or major changes to existing programs. In addition, NRL is investigating transfer of space technology to battlefield digitalization for tactical theater operations. NRL provides the technical information to sponsoring agencies needed for them to describe the worthiness of a program. Often these programs are given to NRL not only for study, but also assuming NRL's active participation in their implementation. Therefore, analysis of the cost and risk required must be made in the context of the NRL resources. The contractor shall contribute to the overall NRL studies conducted to plan advanced development evaluation. In particular, the contractor shall provide the expertise needed in the areas involving software application through the development and documentation of special studies.

# 3.3.1 Space and Technology Studies and Design

The contractor shall provide documented studies and support NRL in performing tradeoff studies that determine the requirements, design, cost, and risk areas for each new space program. NRL is continually involved with new program concepts and space applications serving the Navy and other DoD agencies. These new programs involve all aspects of space and ground support. For these new programs, the contractor shall provide studies that can be used to formulate specifications and identify required trades. The contractor shall perform prototyping studies and be an active participant in NRL directed working groups aimed at determining new program requirements. The contractor shall provide the expertise needed to recognize what elements of software technology apply to the studies. The contractor shall provide input as to the effectiveness and utility of existing NRL software systems and facilities in the implementation of new programs and shall provide planning for the transition of these elements to the new programs.

## 3.3.2 Advanced Studies Deliverables

CDRLS Description

A033 Engineering Trade Studies as Required

A034 Prototype Evaluation Reports as Required

#### 3.4 PROGRAM MANAGEMENT

The contractor shall provide a management team led by a Program manager (PM) as the single point of contact. The PM shall keep the NRL technical manager and contracting officer (CO) informed of the status of the technical and managerial efforts and expenditures on the contract by means of a monthly report and a Program Management Review. Additionally, the contractor shall keep the appropriate government representatives informed by telephone, fax, email and meetings on all issues requiring a timely resolution. The tasks described in this SOW are diverse but related in their need to be based on a set of reusable and COTS elements and their need to be performed and operated in the NRL support environments. To assure these goals are met requires well-coordinated, professional management. The contractor's management team shall have significant latitude in deploying their personnel on the various tasks. While it is expected that each task shall have a lead individual and group assigned to a task, management may adjust assignments as priority changes. This requires appropriate technical awareness by management for all tasks. The purpose of this section is to delineate NRL expectations for that management.

## 3.4.1 Management Plan

The contractor shall provide a draft Management Plan within 30 days following contract award. The management plan must detail how the contractor will organize and perform the work contained in the SOW. The contractor shall supply two organizational charts: one showing the contractor's organization by assigned responsibility and the other showing the organization structure and relationship to the SOW. As a minimum, this plan much contain the Contract Work Breakdown Structure (CWBS), resource loading and cost presented as a time phased budget, and master schedule. The CWBS shall directly correlate to the WBS employed by NRL. All contractor and contractor to government processes and procedures must be documented by the management plan. The management plan must also include a section on risk management. A final plan must be submitted within 90 days following contract award.

# 3.4.2 Program Management Review (PMR)

The contractor shall establish a management system for control and reporting of the program and contractual efforts including cost, schedule and technical performance. A monthly PMR and associated presentation material shall be the primary forum for communicating this information. The contractor shall present to the government a monthly PMR. For each SOW task, a technical status shall be provided containing: risks identification, risk plan for all identified risks, staffing profile, planned activities, and issues and concerns. An integrated Cost and Schedule Status Report (C/SSR) shall also be presented at PMR. The C/SSR shall identify Budgeted Cost of Work Performed, Budget Cost of Work Scheduled, and Actual Cost of Work Performed. Schedule or cost variances are to be reported with a corrective action plan. Each Subcontractor task shall be presented and integrated with the C/SSR. The contractor shall also maintain a computer-based action item system. As a minimum, each action item shall be tracked by originator, assignee, detailed description, status, origination date, and due date. Finally, the contractor shall also maintain a GFE inventory database that tracks the location and status of all equipment.

# 3.4.3 Subcontract Management

The contractor shall provide the appropriate subcontractor management to efficiently engage, monitor, and manage subcontractors for both technical and financial performance. Subcontractor performance reporting shall be a standard section of the monthly program management meeting.

# 3.4.4 Information Assurance (IA) and Network Security Plan

The contractor shall ensure the security of the NRL CES enterprise-wide networks in accordance with Government policies and directions. To include maintaining an overall acceptable IA posture across the networks and implement defense-in-depth strategy mechanisms that will provide the most effective IA program for the networks and users. Procedures for both protection and detection of unauthorized use of information shall be applied such that information, information systems, and networks maintain the appropriate level of confidentiality, integrity, availability, authentication, and non-repudiation (i.e., processed, stored, displayed, or transmitted by the systems), and need-to-know, while maintaining required levels of interoperability. These security services shall be provided to protect secure and non-secured information in accordance with applicable Federal, DoD, Joint Chiefs of Staff (JCS), Navy, and NRL security policies

#### The contractor shall:

- Monitor and ensure that network infrastructure security services provide protection of the network from attacks (hostile and inadvertent), denial of services, unauthorized access, etc. in accordance with Government guidelines.
- Enforce policy and procedures for physical, personnel, administrative and configuration controls to delineate and separate key responsibilities; institute a process of checks and balances; and allow access to only authorized users; protect hardware, software, firmware and documentation from unauthorized disclosure.
- Use only Government certified and/or approved IA tools and products.
- Take necessary action to comply with IA response timeframes specified in information security directives, such as, but not limited to, Information Operations Conditions (INFOCONs), and Information Assurance Vulnerability Alerts (IAVAs).
- Verify to ensure all Government sanctioned anti-virus protection tools and security patches are current, properly installed, and are incorporated into the configuration management (CM) lifecycle according to government and industry (i.e., DISA, NSA, JCS, the national and Navy CERTs, GAO, SANS, CERIAS, etc.) IA best practices.
- Recommend changes to existing Government security policies in keeping with current information security industry best practices and approved Government IA case study critical success factors.

- Conduct, at the direction of the Government, periodic vulnerability assessments and IA policy reviews.
- Review all vulnerability assessments and provide a detailed written report identifying all vulnerabilities with recommended corrective actions.
- Assist NRL with Government Information Security Results Act (GISRA) annual reporting and correction compliance requirements.
- Maintain IA historical data to include, but not limited to, incident reports.
- Ensure enhanced mobile computing security measures are in place.
- Monitor the creation, issuance, maintenance, and recording of user accounts for password policy security industry best practice compliance.
- Mark and label all media and equipment in accordance with DoD, Navy, and NRL security policies and guidelines.
- Be responsible for review of all requested X.509 PKI certificates and request for registration and approval of certificates from appropriate Government agency. Collect, analyze and retain audit data to support forensics relating to misuse, penetration, bypass, change security level, reconstruction, or other investigations.
- Create database, server, and workstation access accounts; update, modify, and assign, user rights to access accounts.
- Ensure login controls are established and maintained for password verification, password changes, and password audit trails for violations, and virus detection.
- Configure all workstations by implementing the machine name and IP address.
- Ensure operational integrity of all servers, workstations, and printers, by complying with all HQ NRL, and other federal government security regulations, policies, standards, and requirements to include remote sites as required.

## 3.4.4.1 Certification and Accreditation (C&A)

The contractor shall provide verification and security analysis upon arrival of new requirements for system authorization to operate on the network.

Prepare documentation for NRL approval for all systems to reside on the NRL enterprise
information systems during and/or integration testing has been completed, unless
otherwise directed by the Government.

- Develop Memorandums of Agreements (MOA) and Service Level Agreements (SLAs) with tenant units and subordinate commands, as appropriate, for interconnection of information networks managed by multiple government and non-government agencies.
- Prepare all accreditation and certification documentation for the NRL enterprise systems in accordance with the DoD Information Technology Security Certification and Accreditation Process (DITSCAP).
- Provide development, analysis and maintenance of accreditation documentation to include, but not limited to, System Security Authorization Agreement (SSAA), Security Concept of Operations (CONOPS), up-to-date network architecture, Network Security Design, Risk assessment, Risk mitigation plan, and other supporting documents for all existing and new IS, or changes to existing IS and network.
- Provide a recovery capability and procedures for specified NRL critical information systems to include facility hardware, software, data, communication and network infrastructure with extremely detailed and broad-scoped plans for disaster recovery, emergency/crisis action, and continuity of operations plan (COOP), which will bring NRL back to a functioning business level in the event of almost any type of disaster.
- Periodically run Government furnished software to detect, eliminate unauthorized connectivity (e.g., dial-ups, Incompliant RAS systems) to minimize network backdoors into the networks enclave.
- Provide all security reports and status to include, but not limited to, violations, incident and intrusion report, security weakness and improvement recommendation, IAVA compliancy, accreditation and certification documentation for Government subject matter expert (SME) review.
- Provide web-base security information distribution for all security related data for need-to-know personnel.

## 3.4.4.2 Security Testing & Evaluation (ST&E)

The contractor shall perform ST&E in accordance with the DITSCAP at the direction of the Government. For example, after all major application or infrastructure changes. The contractor shall:

- Provide a security test plan and procedures prior to conducting the test for Government approval.
- The ST&E test plan shall address the security impact for the following services, but not limited to:
  - o Standard office automation software
  - o NRL critical applications
  - o E-mail (DMS & AMP)

- o Directory services
- o Proxy and caching Servers
- o VPN and firewalls
- o Intrusion detection systems
- Audit tools
- Web and newsgroup access services
- Intranet and Internet Access
- o Mainframe, desktop and legacy Applications
- o Non-classified and classified remote access servers (RAS)
- o Mobile computing capability
- Desktop VTC
- o WAN and LAN Connectivity
- Wireless communications and data networks
- o Public Key Infrastructure (PKI). Digital Authentication and Access Control.

The Contractor shall be responsible for monitoring off-site tape storage for security purposes. Prior to removal of any storage device for repair or replacement, the Contractor shall ensure that all user data and software have been backed up and shall electronically erase, beyond restoration, all data residing on the device. If the Contractor needs or chooses to return a piece of equipment to a depot or other Contractor site for repair, all data shall be removed from the equipment, which may include removing the hard disk prior to removing the equipment from the site. The Contractor shall be responsible for notifying the COR or designated representative if a hard disk containing information has been inadvertently shipped to a maintenance depot or Contractor site.

## 3.4.4.3 Systems Access

The Contractor shall ensure that only authorized Contractor and NRL personnel have access to log-on IDs, passwords, keys, card keys, and combinations issued by the Contractor's on site project manager. The Contractor shall support administrative use of proprietary software to control access to various system resources, including review of security logs for indications of unauthorized or inappropriate use of the systems. The Contractor shall make any and all security logs available to the NRL COR or other authorized NRL personnel, when requested.

#### 3.4.4.4 Information Classification

Information resources are vital NRL assets and any person (including contract personnel) or organization that uses or provides information resources has a responsibility to maintain and safeguard these assets.

The Contractor shall safeguard all information in a manner consistent with applicable laws and policies.

#### 3.4.4.5 Protection of Information

The Contractor shall prevent loss of information during all operations and maintenance activities by taking steps to backup, protect and (at the direction of NRL), restore (as necessary) any information residing on the equipment being maintained.

#### 3.4.4.6 Notification of Security Violation

The Contractor shall notify the CO, COR, and/or other NRL designated personnel as soon as possible upon discovery of any security violation by Contractor or NRL personnel. The Contractor shall propose a notification process that ensures accurate documentation, rapid notification, and appropriate feedback mechanisms.

## 3.4.5 Program Control

The contractor shall provide the program management, control, and reporting functions necessary to manage and direct the technical efforts described in this SOW. While daily personal contact between individual NRL engineers and contractor personnel is promoted to assure task synchronization, the program manager shall have the oversight responsibility and the authority to report progress, relate problems, and initiate solutions for all contracted tasks. This person shall interface with the Contracting Officers Representative (COR) to reassess priorities, to relate problems that require government remedy and to provide status. This manager shall assure that individual tasks are being structured in the context of the total NRL software development environment and priorities. This manager shall assure that deliverables are made in a timely, quality fashion. A formal technical status report shall be issued monthly. This report shall relate the progress accomplished for each task during the report month, the technical milestones planned for the next reporting period problem areas requiring corrective action, deviations from schedules, and any other technical data that should be highlighted. This work is distinct from the administrative controls that the contractor may require and should not be performed by the same personnel.

# 3.4.6 Program Management Deliverables

CDRL#	Description
A035	Program Management Plan as Required
A036	Monthly Cost/Schedule Status Report (C/SSR)
A037	Security Plan as Required
A043	Monthly Technical Status Report for All Current Work

# DD Form 1423 Contract Data Requirements List

SOLICITATION NUMBER: N00173-03-R-MM01 EXHIBIT A

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Contractor's Format COR 2 15. TOTAL 17. PRICE GROUP 3. SUBTITLE 1. DATA ITEM NO. 2. TITLE OF DATA ITEM A016 Incremental Delivery of MOTS Software 8. ESTIMATED 6. REQUIRING OFFICE 5. CONTRACT REFERENCE 4. AUTHORITY (Data Acquisition Document No.) TOTAL PRICE NRL, Code 8133 SOW Paragraph 3.1.4.11 9. DIST STATEMENT 12. DATE OF FIRST SUBMISSION 7. DD 250 REQ 10. FREQUENCY DISTRIBUTION 14. REQUIRED **ASREQ ASREQ** XXb. COPIES 13. DATE OF SUBSEQUENT 8. APP CODE 11. AS OF DATE a. ADDRESSEE SUBMISSION Draft Award Reg **ASREQ** Repro 16. REMARKS Contractor's Format COR 2 15. TOTAL I. APPROVED BY J. DATE G. PREPARED BY H. DATE

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# DD Form 254 Contract Security Classification Specification Ser 049-02 Dated 09/03/2002

SOLICITATION NUMBER: N00173-03-R-MM01 ATTACHMENT (2)

# DEPARTMENT OF DEFENSE CONTRACT SECURITY CLASSIFICATION SPECIFICATION

(The requirements of the DoD Industrial Security Manual apply to all security aspects of this effort.)

1. CLEARANCE AND SAFEGUARDING SER: 049-02

a. FACILITY CLEARANCE REQUIRED

TOP SECRET

b. LEVEL OF SAFEGUARDING REQUIRED

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5. IS	5. IS THIS A FINAL DD FORM 254?  YES  NO. If Yes, complete the following:													
In response to the contractor's request dated, retention of the classified material is authorized for the period of														
6. CONTRACTOR (Include Commercial and Government Entity (CAGE) Code)														
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<ol> <li>PUBLIC RELEASE. Any information (classified or a by the Industrial Security Manual or unless it has been</li> </ol>	, ,		•				
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13. SECURITY GUIDANCE. The security classifiectio this guidance or if any other contributing factor indic recommended changes, to challenge the guidance or and to submit any questions for interpretation of this handled and protected at the highest level of classific separate correspondence, any documents/guides/extr	ates a need for changes in this of the classification—assigned to a guidance to the official identifier ation assigned or recommended	guidance, the contractor is auth ny information or material furni d below. Pending final decision . (Fill in as appropriate for the c	orized and encouraged shed or generated und n, the information invo classified effort. Attac	I to provide er this contract; Ived shall be ch, or forward under			
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15. INSPECTIONS. Elements of this contract are outs	ide the inspection responsibility	of the cognizant security office		Yes X No			
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16. CERTIFICATION AND SIGNATURE. Security reinformation to be released or generated under							
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# PERSONNEL QUALIFICATIONS

SOLICITATION NUMBER: N00173-03-R-MM01 ATTACHMENT NUMBER (3)

#### PROGRAM MANAGER

#### Position Description:

The Program Manager plans, directs, and controls activities of the program to accomplish technical and financial objectives of the contract. Has responsibility for planning and performance in all of the following functions: Production, Engineering, Staffing, and Financial Control. Reviews and analyzes new technical directives from the customer. Responsible in processing requests for procurement of equipment, sub-contracts or other actions requiring customer approval. Reviews, monitors and processes all correspondence to and from customers and is responsible for the submission of monthly and periodic reports. Reviews and submits all regular, special and final reports, approves development schedules and other required documentation associated with contract.

Responsible for planning and establishing schedules and follows up on actual performance against estimates. Prepares, administers and controls program / projects budgets. Prepares cost estimates and proposals.

Develops and recommends short and long range objectives consistent with contractual guidelines. Directs plans and budgets and conducts activities in accordance with approved plans and budgets. Plans and directs research in order to recommend improvement or risk mitigation for contracted projects.

Establishes and maintains satisfactory customer and public relations, through direct or delegated contacts with representative individuals or groups. Reviews organization and staffing plans to ensure that they are consistent and adequate for attainment of contractual objectives.

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#### Education/Oualifications:

The Program Manager position requires 10-15 years experience and a Bachelor's degree from a school of engineering or an equivalent combination of college-level education, training and/or technical experience. An advanced technical degree is highly desirable. Must have a thorough knowledge of systems and software engineering as applied to the development, maintenance, and operation of space, ground, test, avionics, and information systems. The Program Manager must have program management experience of at least 3 years for the responsibility of executing a government contract related to the delivery, development, integration, and sustainment of a technical program related to space or ground systems.

#### Clearances:

Individuals must have the capability to obtain and maintain a clearance permitting access to information classified at the SECRET level or higher. The number and type of clearances required are described in the DD254 for this contract.

#### Relevant Experience Considerations:

Program management experience for leading and managing technical teams comprised of computer scientists, computer engineers, database analysts and network administrators is required. Experience relevant to the underlying systems and technology for engineering and software development of avionics, spacecraft and ground systems; financial and management systems; or computer networks is required.

#### Illustrative Assignments:

- 1. Responsibility for the overall management of the engineering activities for executing delivery of a new space program.
- Organizes, controls, coordinates and reviews the work of other Computer Science or Computer Engineering staff members.
  - Plans and coordinates the efforts of software engineering teams engaged in performing design development and test operations.
  - Prepares schedules for the complete project and establishes a system to review, control and report on project status.
  - Monitors project reviews and based on these reviews, readjusts priorities for accomplishing work.

#### PROJECT ENGINEER

#### Position Description:

The Project Engineer has full technical responsibility for interpreting, organizing, executing, and coordinating assignments. Plans and develops major engineering projects concerned with mission unique problems which have an important effect on major programs. This involves exploration of subject area, definition of scope and selection of problems for investigation, and development of novel concepts and approaches. Maintains liaison with individuals and units within or outside the organization with responsibility for acting independently on technical matters pertaining to the field. Is a recognized expert in at least one of the Computer Science, Computer Engineering, Information Systems, or Computer Networking specialization areas.

Plans, develops, coordinates, and directs a number of medium complexity projects or a project of major scope and importance. Extent of responsibilities generally includes leadership of a team of five or more engineers.

Serves as the technical specialist for the organization (division or corporation) in the application of advanced theories, concepts, principles, and processes for an assignment area of responsibilities (i.e., subject matter, function, type of facility or equipment, or product). Keeps abreast of new engineering methods and technology to recommend beneficial changes to current or proposed programs.

#### Education/Oualification:

The Project Engineer position requires a Bachelor's degree in an appropriate technical field, such as Engineering, Information/Computer Sciences, Physical Sciences, or Mathematics or education and experience equivalent to a bachelor's degree in Electrical Engineering or Computer Science and 6 to 15 years experience. An advanced technical degree is highly desirable.

#### Clearances:

Individuals must have the capability to obtain and maintain a clearance permitting access to information classified at the SECRET level or higher. The number and type of clearances required are described in the DD254 for this contract.

#### Relevant Experience Considerations:

Experience leading and managing technical teams comprised of computer scientists, computer engineers, database analysts and network administrators is required. Experience relevant to the underlying systems and technology for engineering and software development of avionics, spacecraft and ground systems; financial and management systems; or computer networks is required.

#### Illustrative Assignments:

1. Establishes the technical requirements for a project followed by top-level and detailed design phases.

Responsible for System and Software Requirements

Specifications, Software or Information System

Development Plan, System Design, and Test and Integration Plans.

- Manages day-to-day project activities including holding technical design meetings, code reviews, overseeing testing and verifying that all requirements are being met.
- 3. Works closely with the Program Manager and Program Control Analyst to determine staffing, cost and schedule for the scope of the work based on the requirements.

#### PROGRAM CONTROL ANALYST

#### Position Description:

The Program Control Analyst (PCA) administers and coordinates the activities relating to the management of the program as directed by the Program Manager. Assists the Program Manager in the development of policies and objectives pertaining to contractual operations, personnel staffing, and financial performance. Responsible for the development of budgets and staffing profiles to meet the customers objectives and coordinates with the customers financial and contract administrators to insure contractual compliance. The PCA insures that all contractor activities, procedures, and plans are documented in the Program Management Plan.

Responsible for subcontract management. This involves the development of statements of work to meet the customers technical objectives. The PCA insures the proposed work is compliant with SOW and that cost is consistent with DCAA guidelines and the prime contract's terms and conditions. Once under contract, the PCA interfaces with the subcontractor's management and administrative personnel to insure cost baselines, technical performance, and subcontract deliverables are achieved in a satisfactory manner and are consistent with the customers objectives.

# Education/Oualifications:

The Program Control Analyst position requires an advanced degree from a school of engineering or an equivalent combination of post college-level education, training and/or technical experience and 10 to 15 years experience. Must have a thorough knowledge of technology development programs for space, avionics, and ground

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and flight software operations. A basic understanding of Program Management methodologies is required.

#### Clearances:

Individuals must have the capability to obtain and maintain a clearance permitting access to information classified at the SECRET level or higher. The number and type of clearances required are described in the DD254 for this contract.

#### Relevant Experience Considerations:

Experience leading and managing technical teams comprised of computer scientists, computer engineers, database analysts and network administrators is required. Must have knowledge and understanding of the underlying systems, technology, and processes in engineering and software development for: avionics, spacecraft and ground systems; financial and management systems; and computer networks. Must have experience in subcontract program management. Must have experience in developing budgets and staffing profiles.

#### Illustrative Assignments:

- 1. Manages, administers, or directs aspects of the Program with responsibility for planning, organizing, staffing, directing, coordinating, reporting and budgeting under the direction of the Program Manager.
- Analyzes and evaluates the effectiveness of management controls, channels of communications, operating procedures, organization, flow or work and for

compliance to the Program Management Plan and terms and conditions of the contract.

- 3. Responsible for coordinating a monthly Program

  Management Review (PMR) and insures that the technical
  and financial content is timely and accurate. In
  conjunction with the Program Manager, the PCA presents
  the PMR material to the customer.
- 4. The PCA prepares the monthly status report for approval by the Program Manager and proactively maintains Action Items and Risk Management Plans.

#### COMPUTER ENGINEER I

#### Position Description:

The Computer Engineer I performs routine engineering work requiring application of standard techniques, procedures, and criteria in carrying out a sequence of related engineering tasks. Limited exercise of judgment is required on details of work and in making preliminary selections and adaptations of engineering alternatives. Most assignments are designed to develop professional work knowledge and may include some work that is typical of a higher level.

Using defined methods and processes, the Computer Engineer I performs specific and limited portions of a broader assignment of a more experienced engineer. Applies standard practices and techniques in specific situations, adjusts and correlates data, recognizes discrepancies in results, and follows operations through a series of related detailed steps or processes. Typical assignments are design and implementation of low to medium complexity software modules or hardware subassemblies, and generation of routine design documentation.

Usually works under close supervision and receives detailed instructions as to tasks to be performed and expected results. Project Engineer screens assignments for unusual or difficult problems and selects techniques and procedures to be applied. Receives close supervision on new aspects of assignments.

#### Education/Oualification:

The Computer Engineer I position requires a Bachelor's degree in an appropriate technical field, such as Aerospace

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Engineering, Electrical Engineering or Computer Engineering with 1 to 5 years engineering experience.

Education and experience equivalent to a bachelor's degree in Electrical Engineering or Computer Science may be substituted for a Bachelor's Degree.

General understanding of software development methodologies with specific working knowledge of FORTRAN, C and C++ languages is required.

General understanding of computer engineering principles applied to the development of embedded systems and defining hardware and software interfaces. Domain experience in aerospace, space technologies, command and control systems, ground stations, test systems, or avionics systems is highly desirable.

#### Clearances:

Individuals must have the capability to obtain and maintain a clearance permitting access to information classified at the SECRET level or higher. The number and type of clearances required are described in the DD254 for this contract.

#### Relevant Experience Considerations:

Experience in the resolution of technical problems and the systems and computer engineering for the development of avionics, spacecraft systems, command and control systems, or ground station software is required. Experience relevant to the use of COMET/CATS facilities, OS/COMET, Spacecraft Command Language, FORTRAN, C, C++, VxWorks, UNIX Systems, and VAX/VMS platforms is necessary. Experience in preparing software requirement specification, software development plans, design

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documents, interface control documents, and test documentation is required. Supervisory experience in leading small teams of software engineering is highly desirable.

#### Illustrative Assignments:

- Implement computer hardware and software designs for space, ground, test, or avionics systems based on formal requirements.
- 2. Evaluate proposed changes in software or hardware design for performance effects to the system.
- Install, integrate and test space, ground, test, or avionics systems,
- 4. Develop test software to validate and verify the requirements of a space, ground, test, or avionics systems.

#### Position Description:

The Computer Engineer II independently evaluates, selects, and applies standard engineering techniques, procedures, and criteria, using judgment in making minor adaptations and modifications. Assignments have clear and specified objectives and require the investigation of a limited number of variables. Performance at this level requires developmental experience in a professional position, or equivalent graduate level education. Receives instructions on specific assignment objectives, complex features, and possible solutions. Generally performs assignments with minimal supervision. Assistance is furnished on unusual problems and work is reviewed for application of sound professional judgment.

Performs work which involves conventional types of plans, investigations, designs, or equipment with relatively few complex features for which there are precedents. Assignments usually include one or more of the following: hardware assembly or software program design and development, test of materials or equipment, preparation of specifications and design documentation, study/research investigations, report preparation, and other activities of limited scope requiring knowledge of principles and techniques commonly employed in the specific, narrow area of assignments.

## Education/Oualification:

The Computer Engineer II position requires a Bachelor's degree in an appropriate technical field, such as Electrical Engineering or Computer Engineering with 6 to 12 years engineering experience. Education and experience equivalent to a bachelor's

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degree in Electrical Engineering or Computer Science may be substituted for a Bachelors Degree. An advanced technical degree is highly desirable.

Proven, successful record in developing software modules, hardware subassemblies or research in specialization area.

Comprehensive understanding of software development methodologies with specific working knowledge of FORTRAN, C and C++ languages is required.

Comprehensive understanding of computer engineering principles applied to the development of embedded systems and defining hardware and software interfaces. Domain experience in aerospace, space technologies, command and control systems, ground stations, test systems, or avionics systems is required.

#### Clearances:

Individuals must have the capability to obtain and maintain a clearance permitting access to information classified at the SECRET level or higher. The number and type of clearances required are described in the DD254 for this contract.

#### Relevant Experience Considerations:

Experience in the resolution of technical problems and the application systems and computer engineering for the development of avionics, spacecraft systems, command and control systems, or ground station software is required. Experience relevant to the use of COMET/CATS facilities, OS/COMET, Spacecraft Command Language, FORTRAN, C, C++, VxWorks, UNIX Systems, and VAX/VMS platforms is necessary. Experience in preparing software

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requirement specification, software development plans, design documents, interface control documents, and test documentation is required. Supervisory experience in leading small teams of software engineering is required.

#### Illustrative Assignments:

- 1. Design and implement computer hardware and software systems for space, ground, test, or avionics systems based on formal requirements.
- 2. Propose changes in software or hardware design to enhance performance of the system.
- Install, integrate and test space, ground, test, or avionics systems,
- 4. Develop test criteria and software test procedures to validate and verify the requirements of a space, ground, test, or avionics systems.

#### COMPUTER SCIENTIST I

#### Position Description:

The Computer Scientist I performs entry level software development and routine programming work that primarily involves high-level language coding tasks as part of a team. Limited exercise of judgment is required on details of work and in making preliminary selections and adaptations of coding alternatives. Most assignments are designed to develop professional work knowledge and may include some work that is typical of a higher level.

Usually works under close supervision and receives detailed instructions as to tasks to be performed and expected results. Project Engineer screens assignments for unusual or difficult problems and selects techniques and procedures to be applied. Receives close supervision on new aspects of assignments.

#### Education/Oualification:

The Computer Scientist I position requires a Bachelor's degree in an appropriate technical field, such as Computer Science or Mathematics with 1 to 5 years engineering experience.

Education and experience equivalent to a bachelor's degree in Computer Science may be substituted for a Bachelor's Degree.

Must be familiar with software engineering methodologies, processes, and practices with specific working knowledge of the FORTRAN, C and C++ languages. Domain experience in aerospace, space technologies, command and control systems,

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embedded systems, ground stations, test systems, or avionics systems is required.

#### Clearances:

Individuals must have the capability to obtain and maintain a clearance permitting access to information classified at the SECRET level or higher. The number and type of clearances required are described in the DD254 for this contract.

#### Relevant Experience Considerations:

Experience in the resolution of technical problems and the application software engineering for the development of avionics, spacecraft systems, command and control systems, or ground station software is required. Experience relevant to the use of COMET/CATS facilities, OS/COMET, Spacecraft Command Language, FORTRAN, C, C++, VxWorks, UNIX Systems, and VAX/VMS platforms is necessary.

#### Illustrative Assignments:

1. Receives program specifications which set forth specific system functionality, performance requirements; a description of the equipment involved; the computer language to be used with specific formats, and an outline of the logic and sequence of actions required. Analyzes data, develops detailed logic necessary, codes and debugs programs, and develops instructions for use on the programs of others.

2. Troubleshoots problems and implements changes in assigned areas. Recommends modifications to code when problems are found.

#### COMPUTER SCIENTIST II

#### Position Description:

The Computer Scientist II performs mid level software development. Performs routine programming work that primarily involves high-level language coding tasks as part of a team. Exercises judgment required on details of work and in making preliminary selections and adaptations of coding alternatives. Most assignments are typical of a higher level.

Usually works under limited supervision and receives minimal instructions as to tasks to be performed and expected results. Project Engineer only screens assignments that are unusual or difficult and selects techniques and procedures to be applied. Receives limited supervision on new aspects of assignments.

#### Education/Oualification:

The Computer Science II position requires a Bachelor's degree in an appropriate technical field, such as Computer Science or Mathematics with 6 to 12 years engineering experience. An advanced technical degree is highly desirable.

Education and experience equivalent to a bachelor's degree in Computer Science may be substituted for a Bachelor's Degree.

Must be familiar with software engineering methodologies, processes, and practices with specific working knowledge of the FORTRAN, C and C++ languages. Domain experience in aerospace, space technologies, command and control systems,

embedded systems, ground stations, test systems, or avionics systems is required.

#### Clearances:

Individuals must have the capability to obtain and maintain a clearance permitting access to information classified at the SECRET level or higher. The number and type of clearances required are described in the DD254 for this contract.

#### Relevant Experience Considerations:

Experience in the resolution of technical problems and the application software engineering for the development of avionics, spacecraft systems, command and control systems, or ground station software is required. Experience relevant to the use of COMET/CATS facilities, OS/COMET, Spacecraft Command Language, FORTRAN, C, C++, VxWorks, UNIX Systems, and VAX/VMS platforms is necessary. Experience in preparing software requirement specifications, software development plans, design documents, interface control documents, and test documentation is required. Supervisory experience in leading small teams of software engineering is necessary.

#### Illustrative Assignments:

1. Prepares and implements program specifications which set forth general system performance requirements and a description of the equipment involved. Determines the computer language to be used, specific formats, and an outline of the logic and sequence of actions required. Analyzes data, develops detailed logic necessary, codes and debugs programs, and develops instructions for use

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on the programs of others. Leads a team to develop and integrate critical software components.

2. Troubleshoots problems and implements changes in assigned areas. Modifies code where required when problems are found.

#### NETWORK ADMINISTRATOR I

#### Position Description:

The Network Administrator I is responsible for providing onsite network and system administration support including: administering of the network including local-talk configurations with use of hubs and routers; providing PC support including system installs, networking, application support and configuration control within the Windows NT support domain; provide Macintosh support including TCP/IP, appletalk, server support, applications support, backups, hardware support, backups, and system software support; provide UNIX connectivity support; perform configuration management of multiple software and systems versions; and troubleshoot conflicts using basic techniques and tools.

#### Education/Qualification:

The Network Administrator I position requires 1-5 years of network administrator experience. This position requires a general understanding of 10-Base-T, 10-Base-2, local-talk configurations, PC and Macintosh hardware and software, and UNIX (Solaris 2.5/SunOS).

#### Clearances:

Individuals must have the capability to obtain and maintain a clearance permitting access to information classified at the SECRET level or higher. The number and type of clearances required are described in the DD254 for this contract.

#### Relevant Experience Considerations:

General experience in the development, maintenance and troubleshooting of computer networks is required. Experience related to UNIX, TCP/IP, Ethernet, local talk configurations, client/server applications, desktop environments and productivity applications for PC, MAC, and UNIX, knowledge of network protocols; ability to physically cable and configure networks is required.

### Illustrative Assignments:

- Assist in providing configuration and control of a computer local area network facility.
- 2. Perform system configuration management and perform hardware and software installation and updates.
- 3. Create printer setups and configurations.
- 4. Provide end-user help and troubleshooting for network support, software applications, and computer equipment for: SUN/Solaris, HP/AUX, VAX/VMS, MAC/MACos, and PC (Windows 3.1, Windows95, NT).

#### Position Description:

The Network Administrator II is responsible for providing network design and system administration support. Must have experience in administering of the network including understanding of local-talk configurations with use of hubs and routers; providing PC support including system installs, networking, application support and configuration control within the Windows NT support domain; providing Macintosh support including TCP/IP, appletalk, server support, applications support, backups, hardware support, backups, and system software support. Experience with UNIX connectivity is required. Experience in Web site configuration, software, design, and management using specified web software is required. Knowledge and experience with the configuration management of heterogeneous software systems and version control is required. Works under minimal supervision.

#### Education/Oualification:

The Network Administrator II position requires 6 to 12 years network administrator experience. Thorough and in-depth understanding of 10-Base-T, 10-Base-2, local-talk configurations, PC and Macintosh hardware and software, UNIX (Solaris 2.5/SunOS).

#### Clearances:

Individuals must have the capability to obtain and maintain a clearance permitting access to information classified at the SECRET level or higher. The number and type of clearances required are described in the DD254 for this contract.

#### Relevant Experience Considerations:

Experience in the design, development, maintenance and troubleshooting of computer networks is required. Experience related to UNIX, TCP/IP, Ethernet, local talk configurations, and client/server application, installation and maintenance of computer and network hardware is required. Specific tools and techniques that are required include: Retrospect Remote to backup end-users Personal Computer systems which include Macintosh's and PC's; Epoch backup Software to backup UNIX platforms to include SUN, SGI and HP; Etherpeek Software to provide Network diagnostics and troubleshooting. Familiarity with VAX Performance Advisor Software is required. Experience in using multimeters to troubleshoot and diagnose power problems is required.

#### Illustrative Assignments:

Design and implementation of a computer local area network facility.

- Define system configuration management procedures and define process form performing hardware and software installation and updates.
- 2. Provide plan to train and support end-user in the use of the network, specific software applications, and operation of computer equipment including: SUN/Solaris, HP/AUX, VAX/VMS, MAC/MACos, and PC (Windows/3.1, Windows/95, Windows/NT).
- 3. Design, implement, and manage a Web site.

#### Database Analyst I

#### **Position Description:**

The Database Analyst I is responsible for the entry level MIS application development and maintenance using Oracle RDBMS, SQL, SQL\*Plus, PL/SQL, developer tools, 'C', UNIX, Windows 2000 and MS Office. The application development will include all phases of the software life cycle.

The Database Analyst I duties include requirements definition, database object creation/maintenance, application development and maintenance, client/server deployment/support, database/web integration, documentation, training and end-user help desk support.

#### **Education/Oualification:**

The Database Analyst I position requires a bachelor's degree in an appropriate technical field, such as Information Systems or Computer Science, with 1 to 5 years engineering experience.

Education and experience equivalent to a bachelor's degree in Information Systems or Computer Science may be substituted for a bachelor's degree.

#### **Clearances:**

Individuals must have the capability to obtain and maintain a clearance permitting access to information classified at the SECRET level or higher. The number and types of clearances required are described in the DD254 for this contract.

#### **Relevant Experience Considerations:**

Experience in the development and maintenance of relational database systems in support of financial administrative and management applications is required. Must have relevant experience with Oracle RDBMS v8i and 9i, SQL, SQL\*Plus, PL/SQL, Developer 6I tools, 'C' and UNIX. Web development experience and familiarity with client/server applications is necessary.

#### **Illustrative Assignments:**

A typical assignment for a Database Analyst I would be the coding and testing of a new component of a database application working from a detailed requirements specification. Other assignments include:

- 1. Develop detailed entity relationship and data flow diagrams.
- 2. Create database objects with input supplied by the database administrator.
- 3. Develop prototype applications to provide insight to potential end-users

#### **Database Analyst II**

#### **Position Description:**

The Database Analyst II is responsible for the mid level MIS application development and maintenance using Oracle RDBMS, SQL, SQL\*Plus, PL/SQL, developer tools, 'C', UNIX, Windows 2000 and MS Office. The application development will include all phases of the software life cycle.

The Database Analyst II duties include requirements definition, database object creation/maintenance, application development and maintenance, client/server deployment and support, database/web development and integration, documentation, training and end-user help desk support.

#### **Education/Oualification:**

The Database Analyst II position requires a bachelor's degree in an appropriate technical field, such as Information Systems or Computer Science, with 6 to 12 years engineering experience.

Education and experience equivalent to a bachelor's degree in Information Systems or Computer Science may be substituted for a bachelor's degree.

#### **Clearances:**

Individuals must have the capability to obtain and maintain a clearance permitting access to information classified at the SECRET level or higher. The number and types of clearances required are described in the DD254 for this contract.

#### **Relevant Experience Considerations:**

Experience in the development and maintenance of relational database systems in support of financial administrative and management applications is required. Must have relevant experience with Oracle RDBMS v8i and 9i, SQL, SQL\*Plus, PL/SQL, Developer 6I tools, 'C' and UNIX. Web development experience and familiarity with client/server applications is necessary.

## **Illustrative Assignments:**

A typical assignment for a Database Analyst II would be the creation of a new component or subsystem for an MIS application. Other assignments include:

- 1. Define and document the requirements of a new MIS application through analysis and meeting with end-users
- 2. Develop detailed entity relationship and data flow diagrams.
- 3. Create database objects with input supplied by the database administrator.
- 4. Develop prototype applications to provide insight to potential end-users.
- 5. Demonstrate and review prototype applications with end-user.
- 6. Release engineering for production version of application, with appropriate documentation.
- Incorporate end-user feedback and requirements into beta version of application.

8. Provide help desk support on production application.

#### SECURITY ADMINISTRATOR

#### Position Description:

The Security Administrator maintains security records of company personnel including processing security changes into security records, preparing reports and statistical data/summaries from the records. Completes detailed work in connection with badges and other security functions. Performs general clerical duties, sets up files and maintains records which contain confidential information. Prepares or assists in the preparation of regularly scheduled or special reports.

#### Education/Oualifications:

The Security Administrator position requires a High School Diploma and at least two years security administration experience. This position requires a Security Clearance.

#### Clearances:

Individuals must have the capability to obtain and maintain a clearance permitting access to information classified at the SECRET level or higher. The number and type of clearances required are described in the DD254 for this contract.

#### Relevant Experience Considerations:

Experience as a facility security officer for a DOD facility. Must be familiar with National Industrial Security Program Operating Manual procedures.

#### Illustrative Assignments:

- 1. Maintains all security records, reports, and personnel administrative files for the facility.
- 2. Provides a security awareness program to include security bulletins, training, indoctrination, etc.
- 3. Handles all physical security responsibilities for the facility including alarms, locks, safes.

#### PROJECT ASSISTANT

#### Position Description:

The Project Assistant is responsible for administrative functions, office services and project activities related to contract and financial administration. Provide administrative support to technical staff.

The Project Assistant must be flexible and adaptable in performing a wide range of tasks including but not limited to producing and distributing status reports, placing and tracking maintenance calls on various computer hardware, and initiating requests for purchase requisitions for required items.

Must be willing to learning applicable software programs for creating, editing, and formatting documents and forms, creating diagrams, databases, conducting system backups, word processing, data entry, graphics and helping in the preparation of presentations.

Perform general office functions including preparing correspondence, answering phones, typing, filing, and scheduling conference facilities.

#### Education/Oualifications:

The Project Assistant position requires a High School diploma with one to two years of general office experience. Basic computer skills including word processing, spreadsheet, and presentation software are required. DOD or similar experience is preferred.

#### Clearances:

Individuals must have the capability to obtain and maintain a clearance permitting access to information classified at the SECRET level or higher. The number and type of clearances required are described in the DD254 for this contract.

#### Relevant Experience Considerations:

Experience in an office environment using various types of computer systems and software applications to prepare reports, spreadsheets, and documentation.

#### Illustrative Assignments:

- 1. Interfaces with program management, contract administration, and other staff members in preparing reports, letters, and memos.
- 2. Assists engineering and technical staff in the development of training manuals and other technical documentation.
- 3. Prepares program status documentation and reports using inputs from program management.